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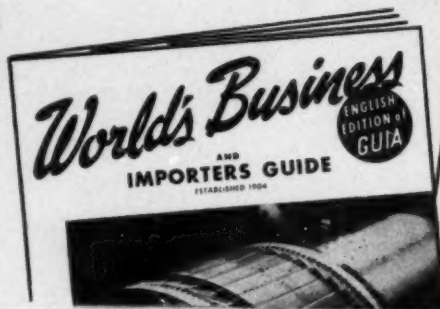
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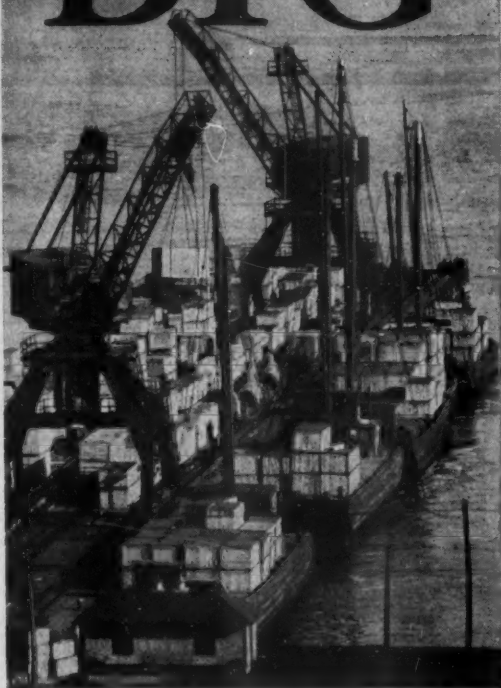


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SEPTEMBER
1945

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THE COVER—One of Panagra's DC-3 transports about to take off at Cochabamba Airport, Bolivia. The airline's commercial air cargo route, stretching from Balboa to Buenos Aires, is the longest in the world.

JOHN F. BUDD, Editor and Publisher

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A SALUTE TO WICHITA'S WAR WORKERS

THE Service men and women on the far-flung battlefronts can feel justly proud of the wholehearted support given to them throughout the war by the people of Wichita. All Wichita people have fully supported the war by personal sacrifices and by both direct and indirect assistance, but this tribute is especially directed to those who work in all the large and small plants which together and in cooperation have turned out such vast quantities of war material.

Wichita's war workers represent a true cross section of Kansas people. They have performed miracles of production. Starting with little or no industrial experience, they have applied eagerness to serve and devotion to their jobs as a successful substitute for experience, and have produced a quantity of war production that has not been equalled on a per capita basis by the people of any other city or locality. The Wichita record of 18 Army-Navy "E" awards for excellence and 4 Maritime "M" awards for merit attests the outstanding quality of their workmanship.

They have come from near and far to lend their willing hands, strong backs, and active minds to the job of producing what our Government asked us all to deliver to our fighting forces. They closed up their businesses, left their farms, and changed their mode of living in order to help get the job done. A recent survey shows that a clear majority of these folks are in war work because of their desire to directly and personally contribute to victory.

The women have rendered invaluable service and have made a magnificent record of efficiency in tasks that they never dreamed they ever would attempt. The physically handicapped people have proved that their determination and courage more than offset their physical disabilities. The old folks who came from retirement have demonstrated that they too can do a full-sized job.

Generosity in Red Cross donations, both in money and blood, has characterized these fine people. They have invested many tens of millions of dollars in war bonds.

We feel that these folks are truly representative of Kansas people and that their achievements are derived from the strength and the support of all Kansas people. They have demonstrated that Kansans* not only can do whatever they want to do, but also can do it quickly and well. With this lesson of the war before them, who can doubt the future greatness of Kansas and of Wichita?

We respectfully salute the war workers for the job that they have done and the job that they will continue to do in war production and the peace production that is to follow.

* * *

*Of course all these folks are Kansans now, although many of them came here from other states, to help do the job.

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WICHITA, KANSAS, U.S.A.



... CARGO PIONEER

By JOHN STERLING

EXTENDING from Balboa in the Panama Canal Zone to Buenos Aires, Argentina is the longest commercial all-cargo route in the world, and the first operation of its kind on regular schedule duly authorized by the Civil Aeronautics Board. Pan American-Grace Airways inaugurated this cargo service on August 30, 1942, on the sector between Balboa and Lima, Peru—a distance of 1678 miles—to supplement its regular passenger, mail, and express service over 8,800 route miles, and to solve the perplexing problem of transportation caused by the drastic curtailments in surface shipping as a consequence of the war.

For this operation two Douglas DC-2s were converted from comfortable passenger planes into veritable flying boxcars. Blazing the trail from the Canal Zone to Colombia, Ecuador, and Peru, these DC-2s became Panagra's original "Pony Express of the Air." In the first 2½ months they transported 80,000 pounds of freight south of Balboa.

Early in 1943 further curtailment of shipping by steamer, and an overwhelming demand to transport by air, necessitated the extension of the all-cargo route south to Santiago, Chile, and over the Andes to Buenos Aires. The airline's time-saving transport facilities, already augmented by larger specially equipped DC-3 planes, at that time consti-

tuted almost the sole remaining link between the Americas, and served to alleviate the critical shipping situation which threatened the economic well-being of our southern neighbors.

Traversing the mighty Andes, the highest mountain ranges in the Western Hemisphere, this all-cargo route is extremely important for several reasons. Primarily, it was highly essential in speeding priority cargoes during the emergency war period—so essential, that military experts believe that if it hadn't been for the rapid transportation of large quantities of critically needed raw materials and food products from Latin America to the "arsenal of democracy" without deployment of shipping from the war theatres, the success-



EASY, BOYS—Pipe for an oil well being loaded through a specially constructed opening in a DC-2.

FILL 'ER UP—One of Panagra's Douglas DC-3 all-cargo planes takes on a load at Lima, Peru.



ful prosecution of the war would have been delayed for months, and the cost in men and equipment would have been greater.

But of even more portentous significance is the active role that this all-cargo route has played in the war. This route represents an operating laboratory which permits a unique study and provides answers to the many questions involved in the development of transportation of freight by air over altitudinous regions. Not so long ago, when the fate of China hung precariously in the balance and depended solely on the amount of supplies that could be shipped to her immediately, the United States rushed the urgently needed supplies to that beleaguered nation by the last remaining means of transportation—the airplane.

To accomplish this hazardous operation over the forbidding barriers of the Himalayas and the equally ominous mountains of Nepal, the Army made use of the detailed first-hand knowledge amassed through the years by Panagra in its operations over the Altiplano of Bolivia and the cordilleras of the west coast of South America. These same studies of high altitude flying, which made possible Panagra's freight operations into the high Andes, contributed to the actual operational information which permitted the United States Army Air Force successfully to perform the daring feat that kept the Chinese people fighting at the side of the Allies right up to V-J Day.

Panagra's experience in flying freight dates back 15 years. It was back in 1930 that Panagra began to transport heavy freight with the now obsolete tri-motored Fords. The cabin structure of these Fords made possible the installation of hatches on top through which bulky and weighty freight could be loaded and unloaded with cranes. Later with the larger, faster DC-3s that supplanted the DC-2s, special bins were installed, and fixed nets of

rope devised to insure stability in flight and to facilitate loading, unloading and sorting of cargo.

With a view to moving anything and everything in the line of freight, other preparations such as the laying of tracks inside of planes, and modifications in interior arrangements of aircraft to facilitate the movement of freight were subsequent innovations on other craft. Another ingenuity was a special compartment about the size of a large safe which was built into the cockpit for the storage of valuable shipments.

The adaptation of the DC-3A, the workhorse of the airlines, to specialized cargo operations marks still another step in Panagra's role of cargo pioneer. Stripped of their soundproofing and passenger accommodations the new air freighters are able to carry a payload of 5,600 pounds. At Lima, Peru, Panagra's engineers designed and constructed an enormous 80" x 98" cargo hatch around the standard entrance of one of these planes. This aperture greatly facilitated the handling and transportation of even bulkier cargo, without in the least impairing the strength of the fuselage.

These latest technological developments by the airline and its services to the public have placed particular emphasis on meeting the special emergencies of the war. The all-cargo route has already served to reduce the accumulation of goods awaiting transportation in an area where normal facilities have been taxed by priority classification of cargo. To the Latin American republics this service has been of inestimable value: it has stimulated the rapid industrialization of the continent which had been chiefly delayed due to lack of rapid communications.

Prior to Panagra's conquest of the Andes, the movement of heavy freight into the cordilleras depended on the traditional mule and

Seventeenth Birthday

PANAGRA is this month celebrating its 17th year of uninterrupted scheduled commercial operations along the west coast of South America. On September 13, 1928, Peruvian Airways Corporation, precursor to Panagra, made the first commercial flight in this region of South America by flying a 450-horsepower Fairchild monoplane over a 600-mile route from Lima to Talara, Peru. Since then the pioneer airline has been consistently expanding and improving its facilities, and today with a fleet of modern DC-3s it operates a route of 8,800 miles extending over eight Latin American countries—Panama, Colombia, Ecuador, Peru, Bolivia, Brazil, Chile and Argentina.

During the past 17 years, traffic over the Panagra route has been steadily increasing. In 1944 the airline's planes flew 68,014,116 passenger-miles and carried an estimated 2,000,000 pounds of freight. This year's halfway mark tabulations indicate that Panagra will surpass the previous year's operations. The totals up to and including June show that the airline has flown 36,668,656 passenger-miles and carried 1,668,801 pounds of freight and mail.

Panagra's plans for the future are already well beyond the blueprint stage; they call for the inauguration of night flying and the utilization of modern four-engine equipment as soon as it is made available. Furthermore, the airline has an application before the CAB for permission to fly Great Circle routes which will reduce elapsed time along the entire line and place Buenos Aires only 22 hours away from New York.

canoe. These primitive methods of transportation into the interior were unquestionably slow. Even the few railroads in this region could not cope with the situation. Their trains running on slow infrequent schedules were further handicapped by routes which wound their way laboriously around mountains. Moreover, frequent storms added to the inconsistency of the railroad and caused disruption in traffic and communications. All of these factors summed up, meant a wasteful delay of shipments in transit. For example, cargoes sent from New York to La Paz, Bolivia, were placed aboard a Panama-bound freighter which passed through the Canal and reached the Chilean port of Arica some 19 days later. Here the cargo had to be unloaded and placed aboard a train en route to La Paz. The rail

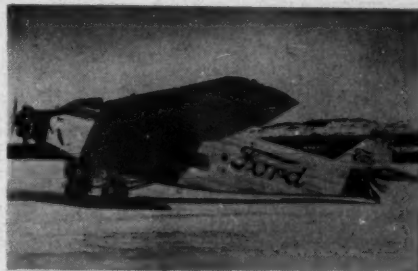
trip required three additional days. Altogether the travel time was 22 days.

In astonishing contrast, this trip of 5,008 miles can be made today by plane in less than three days. Previously, shipments destined to Buenos Aires from Lima, had to be sent on south-bound coastwise steamers around the Straits of Magellan, arriving in Buenos Aires about a month later. Now, Panagra's air cargo service crosses the continent, and makes this trip in a day-and-a-half.

Grateful for the excellent service provided by Panagra which has cut the distance between the principal cities in the hemisphere and ended their economic isolation, the South American republics have been lavish in their acclaim. The Government of Bolivia showed its appreciation last May 30th by commemorating the 10th anniversary of Panagra's service, linking this landlocked republic and the nations of the Western Hemisphere, by issuing a set of stamps showing a Panagra plane in flight.

Native industries and local enterprises, too, have paid tribute to Panagra. Manta, Ecuador, the home of the Panama hat, recently presented a handsome Montecristi hat to one of Panagra's pilots for the airline's contribution in distributing this renowned product throughout the world. And only last month one of the leading exporters of baby chicks in Argentina placed an advertisement in an influential newspaper in that country lauding the excellent means of transportation afforded by Panagra's "Flying Brooders" which made possible his prosperous enterprise, and raised the standards of the poultry industry in the South American countries.

Hats and baby chicks seem to be odd shipments, but the manifests of Panagra are filled with oddities. By far the oddest of the lot was a shipment of 100,000 false teeth consigned to a South American country. Ranging from insect eggs to machinery, the airline has run the gamut with such diverse articles as penicillin, serums, vaccines, patent medicines, sun glasses, pharmaceuticals, newspapers, magazines, vitamins, plastics, rare fish, textiles, dy-



FORD TRANSPORT—Panagra began to fly heavy freight 15 years ago, using this type of plane.

namo parts, mining machinery replacements, urgently needed electrical equipment, tools, and a host of others too numerous to mention, besides the many articles flown out of Miami under contract with the Army Transport Command.

Other strange shipments that have in the past used Panagra's silver-winged planes include live chinchillas for breeding purposes, young fruit trees, choice meat cuts and candy. Non-priority shipments such as candy are carried under a space available program which permits special contract rates and opens up wide possibilities for the expansion of such a program in the postwar future. Among the precious cargoes carried by the airline were priceless gems, jewels, gold and platinum. By far the most exquisite cargo of all to date was the luxurious fleece of the Vicuna, the rare, elusive animal which roams the lofty Andean mountains at great altitudes.

Indicative of the volume of air cargo is the 300 percent increase over the 1942 figure reported in 1943, which was maintained during the past year. In the first four months of 1945, Panagra's records show an increase over the corresponding period in 1944 which promises to shatter all precedents in air cargo transportation in South America.

The value of this cargo service both to Latin America and also to the United States cannot be overestimated. In a recent report, the Department of Commerce revealed that more than a third of total United States imports in 1944 came from the other American republics. Long before food became a weapon of global war, Pan American-Grace Airways in conjunction with Pan American World Airways transported food, fish and fruits between the South American nations and the United States to further a sound agricultural program for the hemisphere. An example of how the airline functions in making food available to isolated regions despite climatic and transportation difficulties is found in Bolivia. In this country Panagra expanded its cargo service to include vital links between the industrial high plateau and the food producing

valley. Lloyd Aereo Boliviano, under management contract to Panagra, uses its planes to carry salt from the salt beds to Llanos where charque, a salted meat, is prepared. The planes then fly the finished product back to the mountains to feed the workers in the mines.

Serving also as an instrument to cement trade relations between the countries of the western hemisphere, Panagra has flown seeds and planting stocks to improve the yield of native strains in various countries along its route. Only recently Panagra delivered at Lake Titicaca, Peru, the highest navigable lake in the world, a half a million fertilized fish eggs. This was a "good neighbor" gift from the Great Lakes of the United States to help improve the food fish stock of Peru. A reciprocal "good neighbor" gift from Argentina was sent via Panagra, too. It consisted of 70 ugly toads which made a 4,300-mile jump to Florida to feast upon the parasites that threatened to destroy the sugar cane crop.

Panagra's records are just full of such strange and fascinating tales, and its preparations for the future forecast no end to the variety and volume of the freight it will handle. The company's predictions for the transportation of rare native cargoes at time-reducing speeds are astounding.

Nevertheless, these predictions are not mere speculations when one considers the postwar plans of the airline. Use of four-engine equipment which the company already has on order, and inauguration of night flying as soon as this modern equipment is placed at the disposal of the company are two notable improvements awaiting the user of air transportation in the immediate future. Improvements such as these will reduce the flying-time along the entire Panagra route and continue the excellent job of providing rapid transportation to the growing industries of Latin America. To manufacturers in the United States this all-cargo route represents a medium of transportation serving the potential markets in eight South American countries that will lessen the time in transit for their products and increase their export output.

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Mother and Dad will want to SEE these places

NOW THAT PEACE is here, thousands of American fathers and mothers will want to *see* those far-off places American servicemen have written about—places where their sons have rewritten history *in action!*

Well, with post-war Clipper fares lower than any the industry has yet known . . . with Europe only 14 hours from New York . . . China less than 26 hours from Seattle, and Australia 32 hours from Los Angeles, Mother and Dad *can* go and *will* go.

Such flying times are based on the sub-stratosphere cruising speeds of the new 100 and 200-passenger Clippers

already ordered by Pan American. These giant Clippers will carry passengers at less than half the old rates. They make possible a whole new plan for world-wide air transportation . . .

Thanks to this post-war plan, foreign travel will be no longer the privilege of only the wealthy few.

Giant, 200-passenger Clippers will bring post-war fares within reach of the average man and woman.



PAN AMERICAN  **WORLD AIRWAYS**
The System of the Flying Clippers

SEPTEMBER 1945—PAGE 11



DEMOCRACY and the AIR AGE

By JOHN F. BUDD

Publisher, AIR TRANSPORTATION

Chairman, Aviation Section, New York Board of Trade

A SHORT while ago, in an address before a group of New York bankers, I stated that the Air Age is not on some hazy horizon, but that we are in it with *both feet*. After my speech one of the bankers approached me with these questions:

"How do you know the Air Age is here? . . . How can you tell? . . . What causes you to believe that this so-called Air Age is already upon us? . . . Where was the exact line of demarcation?"

These questions were not unlike the one put to the man who was asked to describe an alligator. And that anonymous individual, after due consideration, stated quite properly:

"I can't describe an alligator to you, but I'll be darned if I don't know one when I see one!"

The airplane—that very instrument which, only 42 years ago completed an historic flight of 12 seconds, attracting only six newspaper reporters—has twisted the world out of its original shape compressing it until no spot on earth is more than two-and-a-half days from the seat in which you are reading these words.

Need I say that flight time will be shrunk more and more—as steadily and unrelentingly as have been the wondrous efforts of our aeronautical engineers and flying pioneers? The June issue of AIR TRANSPORTATION carried an article by Hall L. Hibbard, bearing the frankly astonishing title: *100,000 Miles an Hour!*

Mr. Hibbard—who is vice president and chief engineer of the Lockheed Aircraft Corporation, and who supervised the work on such famous planes as, the *Lightning P-38*, the *Electra*, the *Lodestar*, and the *Constellation*—stated:

"There truly is no limit to the speeds that may be attained. We understand enough already to be able to predict the future to a certain extent. Speeds of 100,000 miles an hour are possible to my sober estimation. There may never be any reason why we may ever want to go that fast. We may never feel it necessary to fly 100,000 miles an hour. Nor 100 miles above the earth's surface. But if we want to, we will!"

Sounds fantastic, doesn't it? It is possible that many will accept this prediction with a grain of salt and chalk it up to something out of Jules Verne or H. G. Wells. In this respect, permit me to point out that Hitler's famous V-2 rocket bombs which raised havoc in England during the closing months of the war in Europe, sped toward earth at the rate of 2,000 miles an hour—about four times the speed of the generally accepted ceiling for propeller-driven planes.

Two thousand miles an hour today! About 33 miles a minute!

In this connection, it may be well to remind the reader that only a couple of months ago, United States Army Ordnance experts revealed that German scientists had reached the blueprint stage in producing a 3,000-mile



SPEED PLUS—The author points out that the Nazis' murderous V-2 rocket bombs "sped toward earth at the rate of 2,000 miles an hour—about four times the speed of the generally accepted ceiling for propeller-driven planes."

rocket bomb. The target was *New York!* Two additional facts were divulged by the Army men: (1) London would have been demolished within a few months had not the American bombing of the Nazi bases disrupted the enemy's devilish work; and (2) the Germans were only a few months away from perfecting a bomber capable of attacking New York from bases in Europe.

The Air Age is linked to transportation; and transportation, in turn, is linked to speed. Our advances in the speed of transportation, no matter how minute and insignificant at the moment, have brought the Chinese, the Russians, the Australian, the Fiji Islander, closer to our shores.

If I keep harping on the fact that the world as we know it is not the size it was two or three years ago, and that it will be still smaller a few years hence, it is because I am of the unshakable opinion that our American Way, our economy, our political set-up, our culture, are going to have a far greater effect upon the world than ever before.

Let us go back—way back to the days when man lived in caves in the barest form of society. The distance between his cave family and the next was measured by the speed of a man's legs. When he learned to make a crude spear and tossed it in battle or on hunt, the distance between two warriors, or between the hunter and the hunted, was measured by the speed of his new instrument. And, of course, when the bow-and-arrow came into existence, distance was cut again.

Through the long centuries, up to the Eighteenth, progress was comparatively slow—but only in the sense of speed. Man learned to saddle and harness animals for various uses of transportation. The oar-propelled vessel was invented, giving the exploratory instincts of man the urge to cross bodies of water which heretofore could not be swum. When he learned to build bigger and sturdier vessels, he fitted them with scores of oars and assigned to each a fellow human being—the galley slave. Then, for the first time, he was able to cross great expanses of water; to reach across the mysterious and forbidding seas and lands of the unknown where he fought and pillaged and conquered and finally settled to

establish new orders. Or should I say, disorders?

Came the day when sails were placed on those vessels, and speed took on a new meaning when the wind was high. It was inevitable that a man should span the Atlantic. Whether credit should be given to Leif Ericson or Christopher Columbus—there is some ground for argument there—the fact remains that sails are known to have existed in the year 1000 as well as 1492.

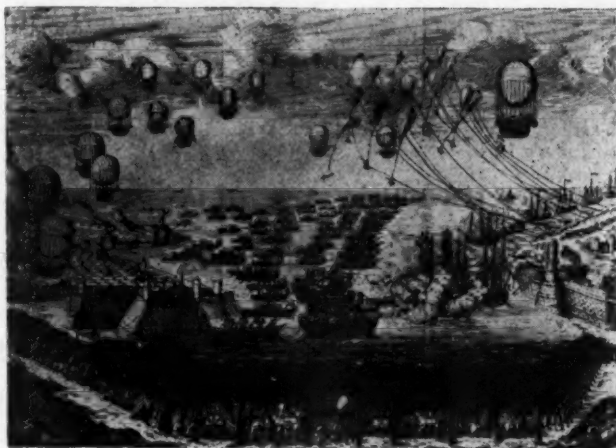
Magellan's trip around the world four-and-a-half centuries ago placed a girdle around the globe which for the first time in history demonstrated that civilization already had reached that point where two persons on opposite sides of the world were accessible to each other. Now that this had been accomplished the accent had to be put on *speed*. To be sure, the steam engine, the steamship, and the railroad train were invented; but unconsciously the longing of man reached for the sky—for the swift flight of the birds and insects encouraged man in the idea that if the air could be conquered by animal, it could be conquered by man. This conquest would give him a new speed.

The legend tells us that Icarus sought to fly with a pair of wax wings, but that the gods became angry and melted them while he was in flight. In itself the tale indicates that even our ancient thinkers read a message in the sky.

Montgolfier, the Frenchman, conquered the air for the first time when he invented the hot-air balloon 163 years ago and stayed aloft for 10 minutes. Two years later Blanchard made the first balloon voyage in the United States in the presence of George Washington, and 12 years after that Garnerin made the first parachute descent.

How many of you have seen the artist's version of Napoleon's theory of the manner in which England could be invaded? The Little Corporal—not Hitler—would have built an undersea tunnel for foot soldiers, horses, and other equipment; and sent the French fleet westward across the channel, while a cloud of balloons gave protective cover.

A few paragraphs back I stated that the Wright brothers' first heavier-than-air craft stayed in the air only a dozen seconds on its initial flight. Shall we call that the beginning of the Air Age? I am so inclined (although I can see the germ of a controversy starting right now). While the Wrights' achievement in December, 1903, gave us a scant glimpse of the future, the door to the Air Age was yanked wide open when, five years later, a Wright plane carrying two passengers with a combined weight of 350 pounds plus adequate fuel for a 125 mile flight, took off at Fort Myer, Virginia, and attained the then breathless speed of 40 miles an hour. Six years after that achievement, a Navy NC-4 made the first



THE NAPOLEONIC IDEA—How to invade England—at least the way Napoleon saw it. Hitler reckoned on air and sea power, but never thought of an undersea tunnel.

landing on a covered dock of the USS Pennsylvania, thus setting the pace for future ship-plane coordination. A few more months went by, and then the airplanes of the Allies and the Central Powers were engaged in battle.

Consider now that in four short decades aviation has progressed from the point where a flimsy plane just barely left the ground to the amazing reality where we have giant aircraft spanning oceans thousands of miles wide at speeds far beyond the imagination of our population only a few years ago. The Martin Mars, the Boeing Stratoliner, the Douglas DC-7, the Consolidated-Vultee Model 37, the Lockheed Constellation, and such British planes as the Sunderland, the Blackburn Flying Boat and the Short Brothers-Saunders Roe Shetland are monuments of achievement in our time.

General Billy Mitchell realized long ago that we were living in an age where the scales of Democracy would be tipped one way or other from the air. He knew that the plane would decide whether we were to exist or perish. And yet only a few days before Pearl Harbor the almost tragic shortsightedness of a powerful group of our elected legislators argued that America had no use for more than 2,000 first-line planes. As a reminder, I should like to make mention of the fact that on D-Day, when the Allies clambered up the bloody beaches of Normandy, 11,000 roaring planes provided the necessary umbrella for our victory-bound troops.

But I would rather discuss aviation in its more peaceful aspects—as an international carrier of tourists, business men, and goods; as a winged Ambassador of Democracy.

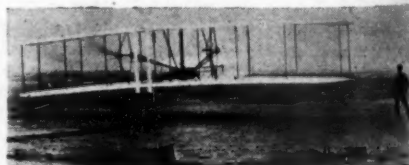
I think it has been pretty well established that we are, after all, as the late Wendell L. Willkie termed it, "One World." The San Francisco Conference was only one of the healthy indications, although the good Lord

knows that we have made only a start on that desirable road.

What prodded the Big Five and the Little Forty-Five into action? . . . What caused the sudden realization that it was now or never? . . . What brought about the joining of nations, big and small?

It was the definite recognition that should the world permit another war to erupt, no spot on earth—no matter how distant; whether it be on a mountain top, in a valley, or on the sea—is safe from modern aircraft and death and destruction from the sky.

We can see the postwar pattern unfolding, giving us, day by day, a more comprehensive picture of what to expect, now that Japanese resistance has been crushed. We know, for example, that transoceanic rates for passengers and cargo will take a nosedive. Tourist air travel, brought to within the means of the average man, will result in an upsurge of traffic. A vast network of air routes will spread over the globe like a giant cobweb, affording opportunity for men and women on normal two-week vacations to spend the greater part of their annual rest periods in countries which previously were no more than romantic names in books and movies. Mr.



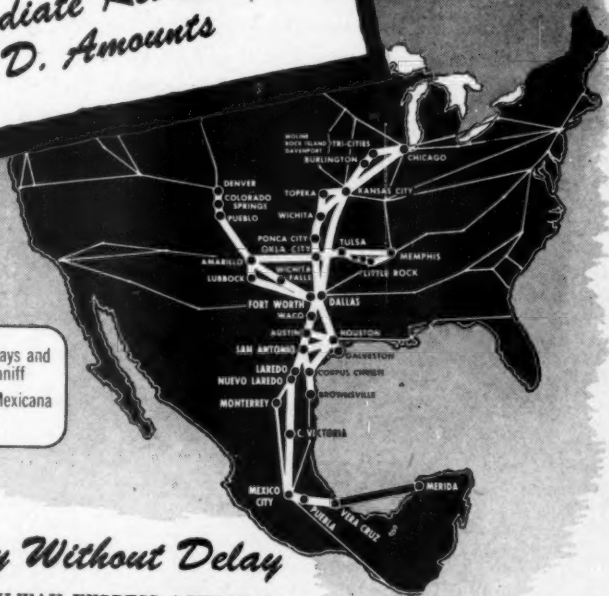
AIR AGE BEGINNING—Orville Wright taking off at Kitty Hawk on December 17, 1903, while Wilbur runs alongside. This, says Mr. Budd, was the beginning of the Air Age.

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& Mrs. Main Street of the United States will rub shoulders with their counterparts in lands across the Eastern and Western oceans, extending to each the earlier impossible opportunity of knowing and studying each other.

The United States has no need for flooding the world with propaganda. Our people and our standard of living are this country's best kind of propaganda. Our laws, our liberty, our way of life is the cherished desire of most of the Main Streeters of alien lands. Will not, then, the increased international traffic of our people help to create a Democratic atmosphere, which is one of the basic aims of the United Nations?

Dr. J. Parker Van Zandt, of the Brookings Institution, in his excellent book, *Civil Aviation and Peace*, predicted that in 10 years following the war some 4,000,000 Americans,

Transport Command have demonstrated what they intend repeating and perhaps exceeding after the war. In the period beginning 1942 and ending 1944, airlines on war assignments flew the equivalent of nearly 26,000 times around the world. The war-working airlines carrying the same tonnage of cargo which they have transported during the first three years after Pearl Harbor, could have carried all the 140,000-odd passenger cars registered in the state of North Dakota, from Seattle to Tokyo.

I question the wisdom of those who claim that the Air Age has yet to come!

One of the biggest thrills I received this year was the swift shipment of that new wonder drug, penicillin, from New York to the Midwest and West Coast. As rapidly as it could be packed after the War Production Board had released the drug for general sale,

"The Air Age is linked to transportation; and transportation, in turn, is linked to speed. Our advances in the speed of transportation, no matter how minute and insignificant at the moment, have brought the Chinese, the Russian, the Australian, the Fiji Islander, closer to our shores. If I keep harping on the fact that the world as we know it is not the size it was two or three years ago, and that it will be still smaller a few years hence, it is because I am of the unshakable opinion that our American Way, our economy, our political set-up, our culture, are going to have a far greater effect upon the world than ever before."

with incomes ranging from \$3,000 to \$10,000 a year will have the chance to make bargain trips overseas. Incidentally, Dr. Van Zandt also has predicted eventual air travel rates of three-cents a mile.

Time has polled its readers on the subject on air travel after the war and the results have been exceedingly interesting. For example, although 252,000 have been to Europe, 482,000 want to go; 99,000 have been to the Pacific lands and 397,000 intend to visit them; 86,000 have been to South America and 354,000 are planning to make the trip.

The Orient will play a major part in tomorrow's air commerce and air travel. Pan American World Airways and Northwest Airlines have been recommended for certification of routes to the Far East. These are only a few of the great plans now "in the works." These are no mere probings. They are definite steps by bold men of vision who know that at last the world has awakened to the fact that it is living in a new revolutionary age—the Air Age.

The airlines operating under the Army

the precious cartons were placed aboard planes for quick transportation, and on sale in stores 24 hours later.

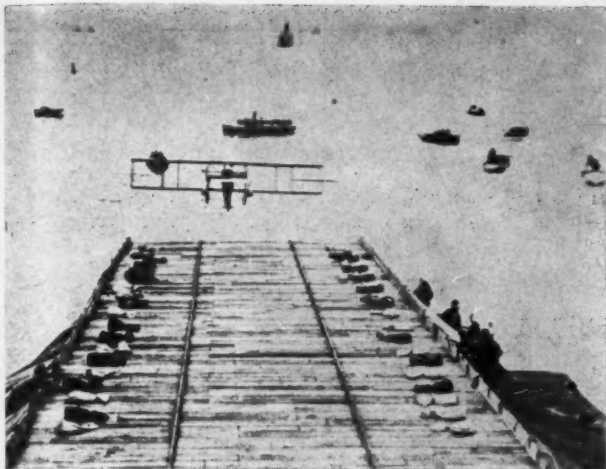
There are men in the aviation field who caution against overoptimism, and some of them even lean so far backward in their own tip-toeing, that the opposite effect is obtained.

I do not believe that I am overoptimistic when I say that the general trend is to travel and ship by air.

I do not believe I am going overboard when I say that the postwar years will find surprisingly large numbers of our citizens—not to mention our returning airmen—seeking to own and fly private planes.

I do not believe that I am particularly air-happy when I see a steadily shrinking world almost forcing international personal and business trips upon us.

Those who keep plucking at our coat-tails and say, "Just a minute there young fellow; take it easy," are, in their own right, experts. But they remind me of another sort of expert—the brilliant business expert of 1910. In



HISTORY MADE — A Navy NC-4 making the first landing on the covered deck of the famous U. S. S. Pennsylvania. The year is 1914, fateful date in world history.

that year there was a total of 1,500,000 automobiles in the United States. A group of experts put their exceedingly wise heads together; did a great deal of searching and figuring, all based on that great big, immovable, formidable word, "fact"; and finally decided that the United States public would become saturated with a total of 7,500,000 automobiles. How wrong these experts were can be measured by the official report that in the year before Pearl Harbor there were almost 35,000,000 automobiles in this country—and the trend still is on the upward grade.

I think it is now in order to quote Dr. C. C. Furnas, director of research of the Curtiss-Wright Airplane Division:

"There is ample evidence," he said, "that in any new industry one can be justified in looking beyond the conservative and sound esti-

mates and making more rosy predictions backed by the good old American optimism that has proved right so many times."

Dr. Furnas has hit the nail right on the head! America forged ahead to its present topmost position because its leaders refused to be mired in stodgy tradition, smug complacency, and retarding shortsightedness.

In New York City, through the excellent progressive efforts of Mayor Fiorello H. LaGuardia and his staff, Idlewild Airport soon will be opened for operations.

The air traffic into New York is a first rate example of how the Air Age has shriveled the size of LaGuardia Airport in a matter of only a few years—almost overnight. The facts about Idlewild are so well known, it would be superfluous for me to recite them here. But

CARGO BY AIR—The airplane worked great miracles in transporting needed supplies of war. Here a Towmotor lift truck operated by a member of the Navy Air Transport Service helps to speed up the loading of a cargo plane.





THEME: COMMERCIAL AVIATION—
Dignitaries attending a recent Aviation Section Forum included (left to right) Kirk Baldwin, Airports Magazine; Philip Wilcox, Fred Olsen & Company; Leonard F. Bouman, KLM; Henry Pillichody, Swiss Airlines; M. E. A. L. de Jong, KLM; Fernand P. Courtois, French Line; B. K. Gardiner, England's & Perrott's; John F. Budd, Air Transportation.

consider that the bull has been taken by both horns because New York does *not* mean to be caught short after the war.

It is my opinion that in the near future every town, village and hamlet will have some part to play in the air role of their state. A short while ago I was invited by the Manhattan Storage and Warehouse Company and the Switlik Parachute Company to witness something new in drop-cargo tests.

A Waco flying at the rate of 115 miles an hour, at a height of 250 feet, dropped various cartons and containers filled with highly fragile merchandise. Each of the boxes was fitted with a nine-foot parachute, and in some cases with two parachutes. As a result of first-rate packaging, not a single item received a scratch, or was marred in any way. Among the articles dropped from the plane were phonograph records, a 12-tube radio, delicate china and glassware, bottles filled with wine, and vials of medicine.

Think what the success of this will mean to the future of air express and air freight. Regular drop and pick-up shipments will be possible without requiring the landing of a plane. Thus the off-route community will not be discriminated against in the matter of swift air shipments. These communities, no matter what the size, must be given the benefit of air deliveries; and I am certain that with the ceaseless efforts of our men in commerce, industry and science, the bridge to the economic feasibility of such shipments will be crossed.

It is difficult not to lapse into enthusiasm when one witnesses successful tests such as these. Translate these tests into terms of interstate and even international commerce, and you can see what sort of picture unfolds.

We are all "first riders" in the Air Age, and it is our duty to conduct ourselves intelligently in the respect that the airplane has no conscience. It will drop atomic bombs, just as it will drop cargo to aid humanity; it will disgorge armed soldiers and tanks, just as

it will debark visitors and business travelers.

Not so long ago a Congressman from New York State cautioned against using a "helicopter mentality on a buzzbomb problem." I think that was very well put.

We must not restrict our actions by operating on a basis of the past. If technological advances pose new problems for us, we must meet them courageously and on equal ground. The postwar era is a challenge, but I have every confidence that the United States, as always in our brilliant history, will lead the way for others.

The airplane has brought nations closer together. Today our great businesses have new horizons. Is it not reasonable, then, to believe that the Air Age can play a major part in shaping a better, more peaceful future in which to live, work and enjoy?

Wanna Be a Stewardess?

Eastern Air Lines has announced a revised set of qualifications for flight stewardess:

- (1) Between the ages of 21 and 26;
- (2) unmarried at the time of employment;
- (3) height between five feet two inches and five-and-a-half feet, without shoes;
- (4) weight between 102 and 126 pounds;
- (5) United States citizen;
- (6) eyesight not requiring glasses;
- (7) at least one year of college or university.

Extensive training courses are given to those qualified. The course lasts five weeks, and regular salary is paid during the training period. An expense allowance and transportation to and from the airport is given for each day away from the base station. Present bases are at New York, Atlanta, Miami, and Chicago.



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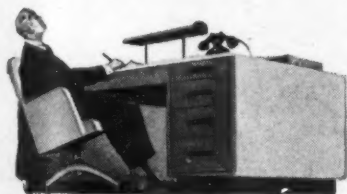
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The Postwar Era Is the Air Cargo Era

WE'VE been talking so long about the postwar period the fact that this is the beginning of the postwar era has escaped most of us, to some extent. And in the realm of air cargo this means a number of important things, the chief one of which is that 19 United States airlines are setting up equipment and schedules that will raise their cargo-carrying capacity 500 percent over last year's level.

This figure is based on the amount of additional cargo space that will be available in the 409 new passenger planes on order or for which the airlines hold options, plus nearly two dozen Douglas *Skytrains* (DC-3s) released by the AAF for cargo purposes.

Last year the airlines carried 202,879,006 pounds of mail, express, and excess baggage. Compare this with the cargo space that the additional planes will provide—sufficient to handle 995,922,619 pounds of air shipments, ranging from jewelry and drugs to perishable foodstuffs and machine parts.

At the end of 1944 the airlines had 344 planes on hand, 272 of which were in daily operation. Plans recently announced call for 975 planes seating 36,180 passengers and with greatly increased cargo space in the early post-war era. Some of the new ships will have adjustable cargo space, depending on the passenger-cargo proportions of the load.

At present four airlines are operating 15 exclusive all-cargo planes on 34 daily flights from coast to coast over a distance of 45,627

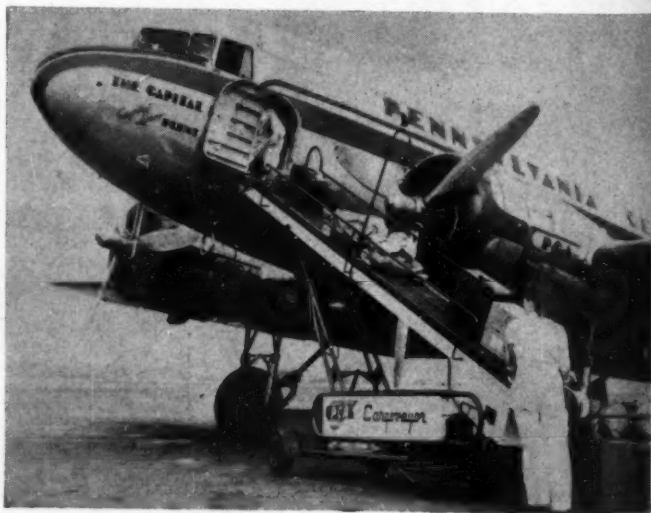
route miles. In addition six weekly international hops covering 15,994 route miles were recently established, raising the total route miles to 61,621.

With the distribution of the 22 C-47s to four or more airlines, three of which will be launching regular all-cargo schedules for the first time, the present exclusive cargo fleet will be increased to 37 planes, capable of carrying 81,000,000 pounds of cargo per year.

In addition, an offer recently made by the War Department to grant airlines some 50 new Douglas DC-3-type transports from current Army production has been approved by the Civil Aeronautics Board. The planes, which may be operated until February 1, 1946, without dump valve equipment at the provisional takeoff weight limit of 25,200 pounds, are expected to augment greatly the present cargo service.

American Airlines, a pioneer in the air cargo transport business, has also filed a request for 20 additional *Skytroopers* (C-53s) as a means of expanding its service.

PCA CARGOVEYOR
IN ACTION—Loading
one of PCA's trans-
ports with the aid of a
Cargoveyor. The direc-
tion of the belt is
reversible, allowing
cargo to be unloaded
from as well as into the
plane:



Although some of the airlines plan to experiment for the time being with the C-47 and various other types of cargo planes now used by the military forces in hauling vital war materials, they are making a study pertaining to their needs in the postwar period.

The Air Transport Association of America has two groups—the Aircraft Requirements Committee, and the Committee on Passenger and Cargo Handling and Servicing Equipment—working on problems relating to all-cargo planes, loading, and other matters involving the handling of cargo.

The Aircraft Requirements Committee is considering functional requirements for all-cargo planes while at the same time studying the feasibility of the present types of planes such as the *Commando*, *Skytrain*, and *Skymaster* for airline use at least a few years to gain experience and later prepare general plans for more compact models for commercial purposes.

The group is particularly concerned at this time with basic fundamental specifications such as high- or low-wing, floor heights, door sizes and locations, loading facilities and Civil Air Regulations pertaining to all-cargo carriers.

To date the Committee on Passenger and Cargo Handling and Servicing Equipment has made studies of various items, including bag-

gage carts, handling of passengers' bags and light express or mail loads, combination and trailer cargo carts, belt loading units, cargo conveyors, air conditioning of planes, ramp boxes, fork lift trucks, tail supports, work stands and electrical requirements on ramps.

Aircraft manufacturers and their engineers likewise are making an extensive study of plans for all-cargo planes preparatory to announcing additional new types of craft for use in the post-war period.

Meanwhile, various methods of pick-up and delivery of air cargo are being studied by both airlines and manufacturers. Pennsylvania Central Airlines in conjunction with the Switlik Parachute Company recently demonstrated that airborne articles could be safely dropped from low-flying transport planes in flight within the limits of a small area. Packaging was supervised by the Manhattan Storage and Warehouse Company.

PCA has also realized favorable results from a device they term the "cargoveyor," consisting of an electrically-driven endless belt mounted on a four-wheel chassis which operates at a speed of 60 feet per minute and will carry loads up to 500 pounds. The direction of the belt is reversible, allowing cargo to be unloaded from as well as into planes.

All American Aviation, which serves 118 cities in six states and the District of Co-

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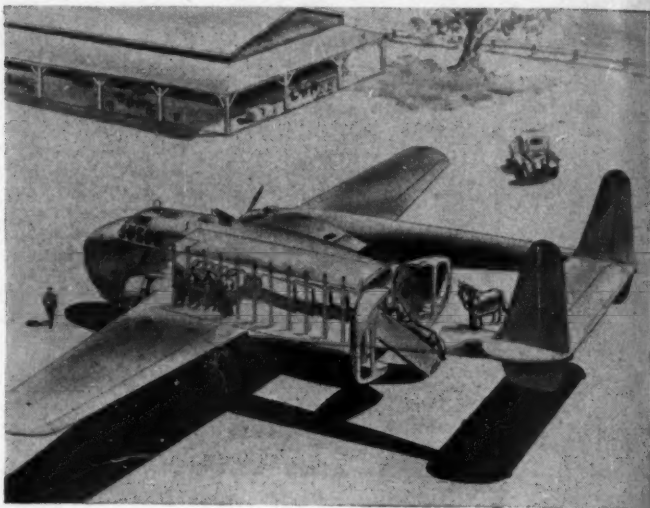
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PEGASUS REBORN —
This artist's conception shows how 11 horses might be accommodated in separate stalls inside the Fairchild Packet's 2,870-cubic foot cargo compartment.



lumbia, has developed an air pick-up unit allowing a plane in flight to take on a loaded glider from the ground. This method already has been used with success in military operations as attested by the recent historic jungle rescue of Wac Corporal Margaret Hastings and two other Army personnel from New Guinea's "Shangri La."

United Air Lines has developed a monorail system which makes possible the loading of 4,500 pounds of cargo into a four-engine DC-6 in less than five minutes, whereas 10 to 15 minutes are required under average conditions to load 1,500 pounds of cargo aboard a twin-engine DC-3.

American uses a portable automotive conveyor at LaGuardia Field to load and unload air cargo. Adapted to a gasoline powered tractor, a conveyor belt moves the baggage, express and mail into the plane as fast as the cargo handlers can store it away.

One form of air cargo that has received considerable attention of the airlines in recent years has been perishable foodstuff, and to further this development the ATA has named a subcommittee representing the airlines to work with a similar body comprised of members of the United Fresh Fruit and Vegetable Association. The group is exploring the economic feasibility of flying perishables from field to market, with particular attention to cost and the preservation of their vitamin content, flavor and freshness, offering decided advantage over surface-borne transportation.

A recent study by Federal officials on the amount of perishables to be available for movement from the Western and Southern areas after the war indicated a traffic of about one and two-thirds billion ton-miles, requiring from 400 to 900 cargo planes, de-

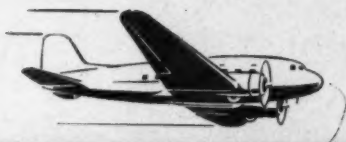
pending on their capacity. Experiments already have been conducted by various airlines, showing it is possible for residents of New York, Detroit, Cleveland, Chicago and other large cities to enjoy garden truck gathered from California and Southern fields and seafood caught in Gulf waters in a matter of hours rather than days and weeks.

Wayne University at Detroit, in collaboration with a food store chain and two airlines, is conducting a survey at present to determine consumer preference for airborne perishables. Actual test sales are made in certain selected retail stores in leading cities to determine consumer acceptance of airborne perishables.

An unusual service linking perishables to air transport was performed in two shipments recently by Delta when it moved 320,000 tomato plants from Tifton, Georgia, to farms near Bowling Green, Ohio, after hot weather and rain had forced the growth of plants ahead of schedule, while colder weather in the north prevented earlier shipment. Each shipment was made via air in four hours, whereas four days would have been required by ground transportation.

While fresh vegetables and fruits have predominated the experiments conducted to date, air shipment of seafood has not been overlooked. An experimental flight of live lobsters, hard shell crabs, oysters and fish was conducted in the vicinity of Washington earlier this year to test the effect flight and altitude would have on them. Special reduced rates previously had been approved by the CAB for flying seafood from Southern points and other parts of the country to inland cities. Seafood as well as huge amounts of biologicals and drugs also have been flown

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FOR ALL TRAFFIC of importance, more plane space is available these days since more planes are being put into regular service.

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250	\$1.04	\$1.25	\$1.57	\$2.63
500	\$1.11	\$1.52	\$2.19	\$4.38
1000	\$1.26	\$2.19	\$3.74	\$8.75
2500	\$1.68	\$4.20	\$8.40	\$21.00

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CARGO SPECIALIST—Interior view of an American Airlines' Airfreighter. A converted DC-3, the cargoplane has done away with all windows and other features of a passenger transport.

with great success on international routes.

Europe's depleted poultry yards stand to be replenished soon since eggs can be shipped by airplane without harm to their hatchability, experiments by Department of Agriculture authorities indicate. And it is a common sight to see live young chicks on domestic planes or at airports awaiting shipment far beyond our borders.

Experiments also are being conducted by the aviation industry covering the packaging, handling, and transporting of perishables, seafood, poultry, meats and other items that will comprise air cargo loads on a rapidly increasing basis in the next few years.

Meantime, the ATA-sponsored committees are pushing forward recommendations calling for planes and equipment that promise to revolutionize the air cargo business.

Air Express Rates On Seafood Lowered

Substantially reduced rates on air express shipments of fresh seafood and cooked shrimp, flown between New Orleans and 21 cities, were announced by the Air Express Division of Railway Express Agency, and went into effect on September 8.

According to the provisions of the reduced rate schedules, a 20-pound air express shipment of fresh seafood or cooked shrimp may now be flown from New Orleans to Fort Smith, Arkansas, for \$2.20, whereas formerly the rates would have amounted to \$3.54.

New Routes

Examiners for the Civil Aeronautics Board have recommended the certification of Pacific routes to Northwest Airlines, Pan American Airways, Alaska Airlines, and Western Air Lines. Specific recommendations are:

Northwest—A certificate to carry traffic between the co-terminal points of New York and Chicago and the terminal point of Manila via Edmonton, Anchorage, Paramushiro, Tokyo, Shanghai, and Hong Kong.

Pan American—Amending its certificate so as to extend its central Pacific route from the intermediate point of Midway Island via the intermediate points of Tokyo, Shanghai, Hong Kong, and Bangkok, to the terminal point of Calcutta. Also from the intermediate point of Manila via the intermediate point of Singapore to the terminal point of Batavia. Amending its certificate to provide service between Noumea, New Caledonia and Sydney; and authorizing nonstop service between Honolulu and Wake Island.

Alaska—A certificate to operate between the terminal point of Anchorage via the intermediate points of Juneau and Ketchikan and the terminal point of Seattle. This is subject to the condition that it does not carry local traffic between the intermediate points.

Western—Amending its certificate extending the route from Lethbridge, Canada, via Calgary, to the terminal point of Edmonton.

* * *

Air transportation between Central and South America will be greatly facilitated by the opening of a new TACA route linking Bogota, Colombia, and San Jose, Costa Rica. This will make possible less-than-15-hour flights from Colombia to Miami. In connection with the opening of the new route, TACA de Colombia is acquiring six additional *Lodestars*, increasing the company's fleet to 10 planes. Half will be used for transporting cargo and half for passenger flights.

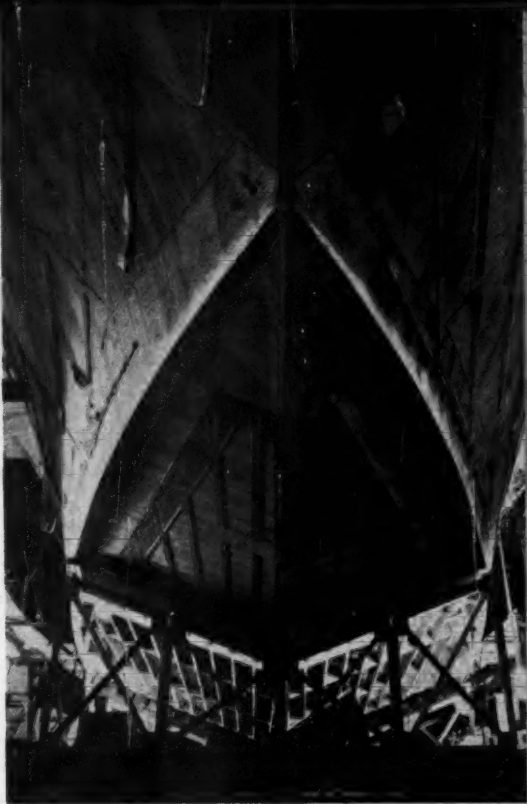
* * *

The CAB has authorized Eastern Air Lines' Route 6 extended from Columbia, South Carolina, to Detroit, via Charlotte, Winston-Salem, and Greensboro-High Point, North Carolina; Roanoke, Virginia; Charleston, West Virginia; Akron and Cleveland.

* * *

Delta Air Lines has won extension of its route from Cincinnati to Chicago via Anderson-Muncie-Newcastle, Indiana, and from Knoxville, Tennessee, to Miami by way of Asheville, Greenville-Spartanburg, North Carolina; Augusta, Savannah, and Brunswick, Georgia; and Jacksonville, Florida. DAL may serve Miami only on flights originating or terminating at points north of Jacksonville.

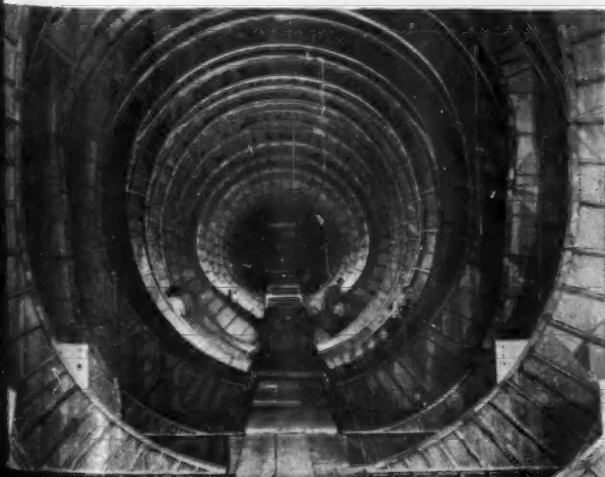
WHEN BIG MEANS BIG



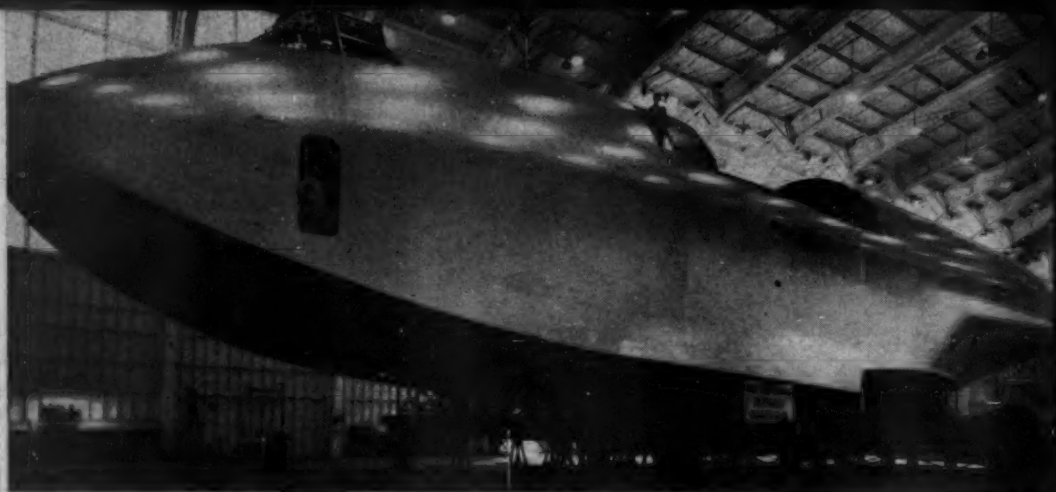
WHEN news and some pictures of the gigantic Hughes *Hercules* (the name has since been dropped and the designation, H-4, picked up) broke a few weeks ago, they made the headlines and gave rise to considerable comment. But it was back in June, 1943, that *Air Transportation* reported the news of work on the 400,000-pound flying boat—at a time when Howard Hughes and Henry J. Kaiser still were partners in their corporation, and the H-4 was being called the HK-1.

Cargo-carrying needs, brought to high pitch at the time of the submarine menace to Allied shipping in 1942, gave birth to the H-4. The United States Government displayed an intense interest in the development of extremely light flying boats. But an undertaking like the H-4 was no small beans. Hughes' interest in aircraft development and Kaiser's genius

in the field of mass production found the two joining forces; but later, when it became apparent that mass production of these huge cargoplanes would be impractical, the latter retired from the project. The corporation was dissolved early last year and a new organization formed: the Hughes Aircraft Company. The Summer of 1942 was wearing on when



HULL INTERIOR — Looking very much like a subway tube is the interior of the H-4's hull. This picture was taken from the halfway station, facing aft.



GARGANTUA OF THE SKIES TAKES SHAPE—Hull of the Hughes H-4, stretching away to a length of 220 feet. Near completion, it now sports its final coat of aluminum lacquer. Cutaway section in the center of the hull will accommodate the wings, which, in terms of footage, will be longer than a regulation football field. The H-4 is built almost entirely of wood, with birch as the principal material.

design proposals for the H-4 were submitted to the Government, and on November 16 a contract was let by the Defense Plant Corporation. Financing was done by Kaiser-Hughes.

The proposals were breathtaking, to say the least. For example, the original conception of the H-4 was a flying boat of some 250,000 pounds; but when the issue of carrying an Army 60-ton tank injected itself, the present size and gross weight of 400,000 pounds were established.

Maybe it sounded fantastic to some, but the builders meant to put out the world's biggest airplane come hell or high water.

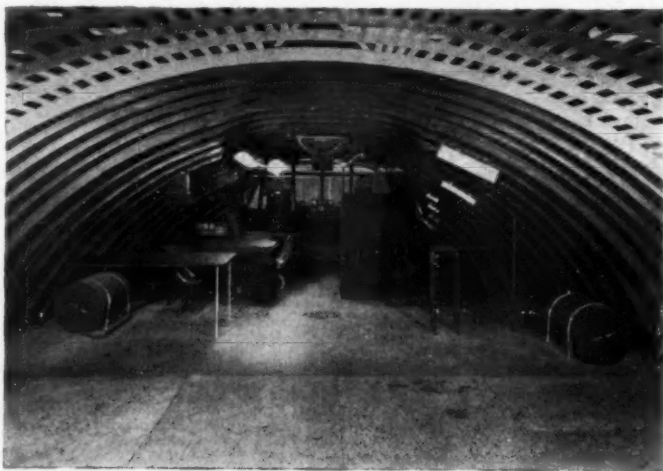
(The Consolidated Vultee *Model 37*, when it makes its appearance, will be 320,000 pounds.) There were additional details on the H-4:

Wingspread: The wings are 320 feet long—20 feet longer than a regulation football field.

Hull: This is 220 feet long, 30 feet high, and 25 feet wide.

Power: Eight engines, each with 17-foot four-bladed propellers.

Fuel: Fourteen tanks, each holding 1000 gallons of gas. This approximates 42 tons of gas.



SPACE APLENTY—Mock-up of the H-4's flight deck, looking forward to the pilot's compartment. Can't say one is cramped for room here.

Speeds: At sea level, a high speed of 218 miles per hour, cruising speed 175, and landing speed 78.

One of the unusual aspects of the H-4 is that it is built almost entirely of wood. Although birch was used mainly in the plane, other woods such as spruce, poplar, maple, and balsa, went into it.

The cargo floor in the hull was designed to carry a load of 125 pounds per square foot. The supporting frames have been designed so that by laying the proper planks across the floor any heavy piece of equipment, up to and including the Army's 60-ton tank, can be rolled in under its own power and transported without dismantling.

Below the cargo deck, the hull is divided into 18 watertight compartments. Hughes engineers say that if two-thirds of these were flooded, the ship would still remain afloat. The main gas tanks are housed in these compartments so that if a tank should leak the fuel will not spread to other parts of the craft.

There has been no word on how many passengers the H-4 will be able to accommodate. However, a fair guess may be gained from the fact that as a troop carrier this flying boat can transport 400 men plus ammunition, etc. As a hospital ship, the H-4 could fly 350 patients in stretchers plus doctors, nurses, and surgery.

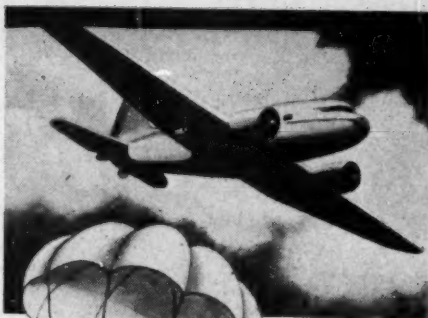
One hundred and twenty thousand pounds of cargo or passenger equivalent is stupendous in any air shipper's or air traveler's language!

Canada Not to Pool With Great Britain

When Canada declined at the Commonwealth Air Transport Council in London last month to pool with Britain in the North Atlantic routes and announced that she would operate her own services in "free and friendly competition" with British Overseas Airways, our northern neighbor sprang somewhat of a surprise.

"It is our view," said Air Marshal G. O. Johnson of Canada, "that this system is not the best method for the North Atlantic. While generally we agree with the principle of pooling, parallel and independent operation is best on many routes."

He added that the North Atlantic provided an opportunity "for operations completely separate in every respect." An agreement between Britain and Canada, however, on the frequency of service is expected. There will be cooperation between the two on different sections of the route. Unlike the other dominions and India, Canada will not pool her aircraft and costs.



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TRENTON 7, NEW JERSEY

30,000,000 MILES for VICTORY

By A. C. PURTHREY

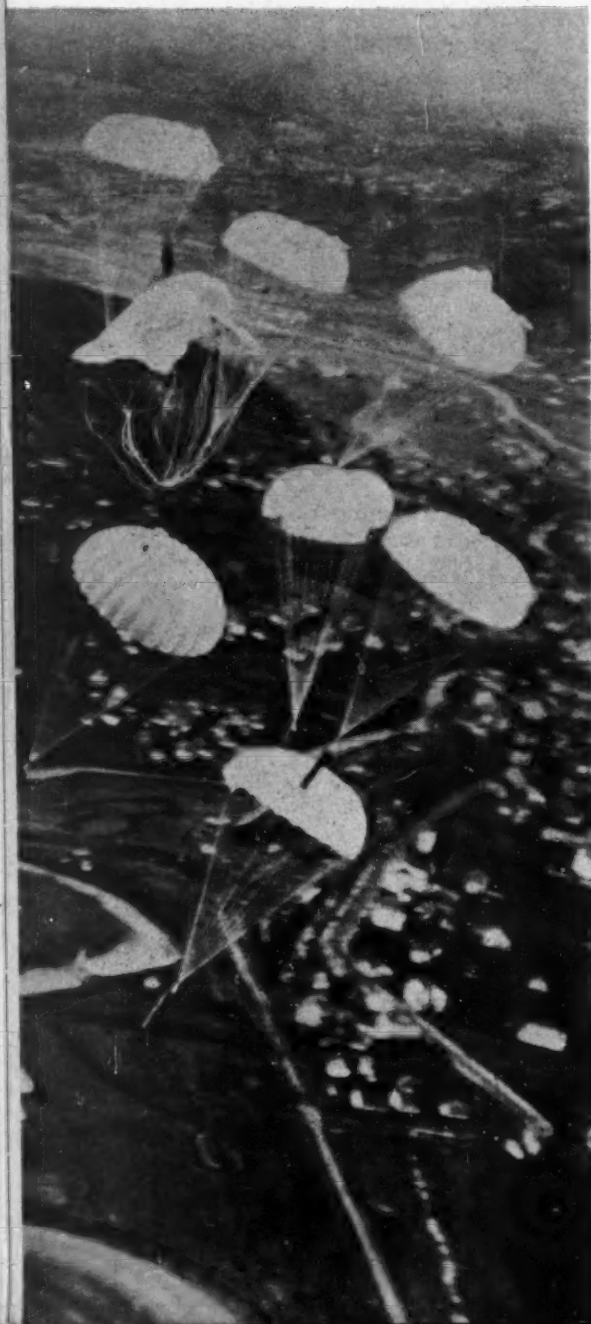
"VICTORY is the flower and transport is its stem," said Mr. Churchill, and nowhere was this proved more than in the Mediterranean war.

The Mediterranean Group of Royal Air Force Transport Command, formed in September, 1942, had a bathroom in Cairo's overcrowded RAF headquarters as its first home. Since that day the Group's aircraft have carried nearly 26,800 tons of vital war freight, 400,000 passengers, and more than 8,000 tons of mail for the fighting men. To do this they have flown more than 30,000,000 miles.

In addition, its ferry pilots have flown thousands of replacement aircraft to the fighting lines of Italy, Russia, and the Far East. Such, in cold figures, are the contributions of air transport in the Mediterranean to V-E Day.

The Western Desert, Sicily, Italy, Salerno, South of France, Greece, Yugoslavia—wherever there was war there was the Transport Command.

The story begins in the desert when the only reinforcement route for aircraft was from West Africa to Cairo. Staging posts were established in that wild country over which the aircraft flew in convoys, led by a navigating bomber. Even then there were re-arming and refuelling parties in the desert handling cargoes brought up to battered landing grounds by the *Bombays*, dealing with fighters that landed for ammunition and petrol and a slice of bully beef. Generals hurrying to Cairo for urgent talks perched on mailbags or equipment.



El Alamein came; its prelude was an urgent call for 1,500 pounds of blood plasma to be sent to the British lines. The Eighth Army smashed through and Rommel retreated, and air transport entered its most vital tactical role.

Always Rommel strove to retreat beyond the range of British fighters and, at each stage, thought he had done so; but the transports were bringing up petrol, ammunition, and oil for the fighters and food for the pilots, landing on the most advanced airfields the same day that they were captured. Always Rommel found his retreat harried and hunted by the fighters.

Several thousand men, wounded in these battles, owed their lives to the *Dakotas* (DC-3s) which brought back casualties on their return trips.

When Rommel managed to hold up the advance with a huge minefield, transport

and children from the bomb-torn island. One pilot carried 49 women and children.

Tripoli, Sousse, Tunis fell. Von Armin went to Britain as a prisoner in the same transport aircraft as some of the men who had beaten him, and the *Dakotas* began a new task. Without pause they flew men and supplies into Malta; built up the George Cross Island into a great offensive base. Malta became, in truth, a "dart pointed at the heart of Italy," as Mussolini used to say. Sicily was invaded, and the *Dakotas* again broke ground. Led by Air Commodore Whitney Straight, commanding the Group, they flew into Gozo, Malta's "other island," and lifted an American fighter wing from a three weeks-old airfield into Sicily. The Germans were harried without pause.

A regular air service was established between Sicily and Malta; brought back 2,500 wounded men to the great hospitals awaiting



YUGOSLAVIA-BOUND—An RAF *DAKOTA* transport (Douglas DC-3), laden with precious cargo for Marshal Tito and his fighting Partisans, points its nose toward the Balkans. During the latter half of 1944 some 8,000 gross tons of materials were flown to the Yugos by the Balkan Air Force.

planes brought up new supplies of mine detectors and the advance went on.

Captured German equipment was flown to England for examination; a big gun brought rivets popping out of a *Liberator*, but the journey was made safely.

Malta still was virtually cut off. She had first to be relieved and then built up for the offensive into Europe. Transport squadrons kept up a regular shuttle service to the Island. They carried carefully calculated loads. Only things for which Malta had called urgently were sent. *Spitfire* types, gasoline tailplanes, wireless sets and batteries, acid for accumulators, even carbon paper for signals, coils of wire, shovels, medical equipment comprised a typical load. On the return journey to Gibraltar or Cairo the planes brought women

them on the island; more squadrons were moved to Sicily for convoy protection. Altogether the *Dakotas* carried 3,125 tons of war supplies to Sicily.

Then the war moved to Italy and to the Douglas *Dakotas*' greatest days. The Salerno landing was in danger. Rough seas made it impossible to unload supplies. Ground forces badly needed battle spares, gun parts, batteries for tank radios and ammunition. The *Dakotas* brought them, landing on dusty, shell-torn landing strips. The Germans put up fighters, and sometimes the *Dakotas* only escaped by diving into the barrage put up by their own ships.

The *Dakotas* did much to save the Salerno landing. In addition they moved in two American fighter groups, two divebomber



BOMBAY ON DUTY—
The Bristol BOMBAY played an important role as an air transport in the now historic desert war. It was another in the long line of headaches for Marshal Rommel.

groups, and three other squadrons. Again, as Italy capitulated and the Italian war speeded up, the *Dakotas* kept the fighters on top of the Germans and surprised them by moving *Spitfires* to Taranto one afternoon so that they found the fighters in their rear that evening. The vital Foggia airfields were captured at speed because of these forward moves.

Marshal Tito was fighting hard in Yugoslavia but needed supplies. The *Dakotas* were with him for the whole of 1944, taking supplies across the Adriatic, dropping them by parachute to tiny pin-points of light in the mountains, landing with them on postage-stamp strips roughly made in valleys. Sometimes the strips were only 500 or 600 yards long. Aircraft would sink to the axles in soft mud, to be dug out by Partisans, with the Germans only a dozen miles away and certain to attack at dawn. They took nearly 1,000 tons of supplies, clothing, food, mortars and mortar-bombs, and ammunition to Tito. When his armies were bogged down by large numbers of casualties, the *Dakotas* evacuated 6,000 of them and restored his mobility.

All the air services were being built up and staging posts established on the old desert landing grounds, which were cleared of their litter of hand grenades, land mines, and debris. An ever increasing number of aircraft flew to strict schedules, carrying fire engines, vital spares, and important war passengers. The great conference met at Mena House, Cairo, with Chiang Kai-shek, Winston Churchill and Franklin D. Roosevelt. The Group handled many of the flying arrangements as they did for the Teheran and Crimean conferences.

Rome fell and Europe was invaded. The *Dakotas* had been at work for months building up another island—Corsica—for the inva-

sion of Southern France. It was Malta over again, and the *Dakotas* moved a Fighting Wing into a vineyard in the South of France.

Paris was freed. A hundred members of the Algiers Consultative Assembly were carried back to their capital from Algiers at the request of General Charles de Gaulle. Greece was invaded. The *Dakotas* were the first aircraft to drop paratroops to prepare a landing strip, landing themselves on the edge of a dried swamp the next day with ammunition and transport. They took paratroops into the invasion of Athens, moved fighter squadrons into the city's airfields, and flew from the desert with gasoline and ammunition for them. Tirana was freed; the *Dakotas* were there with supplies.

Bucharest, Sofia and Belgrade all figure among the transport "routes to victory." The transport crews end two years of high-speed war with the knowledge that not only have they brought the fighting man the tools he needed for the Mediterranean job, but that they have brought him his mail, and newspapers, too, with the utmost speed.

YSAT Wins Subcontract

Trans-Canada Air Lines has granted a subcontract to Yukon Southern Air Transport to supply air service between Whitehorse, Yukon Territory, and Fairbanks, Alaska.

LeMay Sets Record

The newest record nonstop flight from Hawaii to Washington, D. C., in a B-29 *Superfortress* was set up in 20 hours and 15 minutes. The distance is 4,640 miles, and the record-holder is Major General Curtis E. LeMay.

Westchester Plans Again

Establishments of 11 small airports in Westchester County, New York, to supplement the services of the recently opened Westchester County Airport, has been proposed by the local planning commission.

More Air Mail Stops

Airmail service to Belgium, Denmark, France, Luxembourg, The Netherlands, Norway, and Switzerland has been resumed.

The Author

"A. C. Purthrey" is the pseudonym of a widely known Fleet Street journalist who joined the Royal Air Forces at the outbreak of the war in 1939. He has seen service in several countries.

Ships of the SEA and Ships of the AIR Will Sail Together

WHEN the age of all-out cargo-by-air arrives, the ships of the sea will still be sailing.

For vast though the future of CARGO-BY-AIR may be, there will always be the need of the *most economical* means of freight transportation man has ever devised—ships that ride on the water.

The shipping men of America look on the coming of cargo-by-air with no dismay—but with a feeling that a new and powerful partner is about to join them in providing the sinews of reborn international trade.

They feel, too, that the true destiny of our foreign trade in the postwar world requires not competition but cooperation, not rivalry but partnership, between these two great modes of transport, in realizing the great new world that will then lie before us.

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Comparative Air Travel Fares and First Class Railroad Rates from NEW YORK to

PITTSBURGH		\$14.90
		\$17.47
YOUNGSTOWN		\$16.55
		\$20.41
CLEVELAND		\$18.60
		\$23.16
DETROIT		\$22.55
		\$27.89
CHICAGO		\$32.85
		\$36.93

(All fares are given without tax)

Airlines Make History by Announcing Fares Under First Class Rail Rates

WHAT America has been awaiting for a long time slipped into reality this month with the announcement that plane fares have taken a nosedive below those for first-class rail and Pullman lower berths. A rate war? No, say the airlines. It is merely a matter of passing on to air travelers the economies taught by the exigencies of war.

Airline men have been quick to point out that an important factor in favor of air travel is that the longer the train trip the higher the cost of meals and tips. This does not apply to air travel.

It was reported that airline travel under Government priorities has dropped from 10 to 15 percent below the war peak. Abolition of the priorities system is expected some time next month.

Meanwhile, from Washington has come word that the Air Transport Association, which represents the airlines, has removed its voluntary restriction on advertising. This will mean the resumption of peacetime resort travel advertising as well as other competitive means of attracting the public.

There is no doubt that another air travel boom is on the horizon, certainly accelerated by the downward trend of rates. The airlines have been planning for this day for a long while, having made tentative contracts with such manufacturers as Curtiss-Wright, Douglas, Lockheed, Boeing, and Martin. The two- and four-engine aircraft now on order amount to more than a half-billion dollars. Several weeks ago the Army Transport Command turned over 20 C-54s (Douglas DC-4 *Skymasters*) to the airlines.

In commenting upon the reduction of air travel rates, an editorial in the September 11th issue of *The New York Times* said:

"Here is a perfect example of the competitive system in operation. Eager to obtain a larger volume of business, the airlines have

resorted to the action which new industries have found to be most effective in the past—namely, lower prices. No Government fiat was required to force this reduction. It is a perfect example of how the self-interest of an industry desirous of expanding its market also serves the national good. The business gained by the airlines will not necessarily represent a net loss to the railroads. Undoubtedly, at these lower rates many persons will be induced to travel who have thus far been restrained by cost considerations. The history of business is replete with illustrations of how this type of general reduction in prices has been followed by a larger volume of business for all concerned, the new competitors as well as the old.

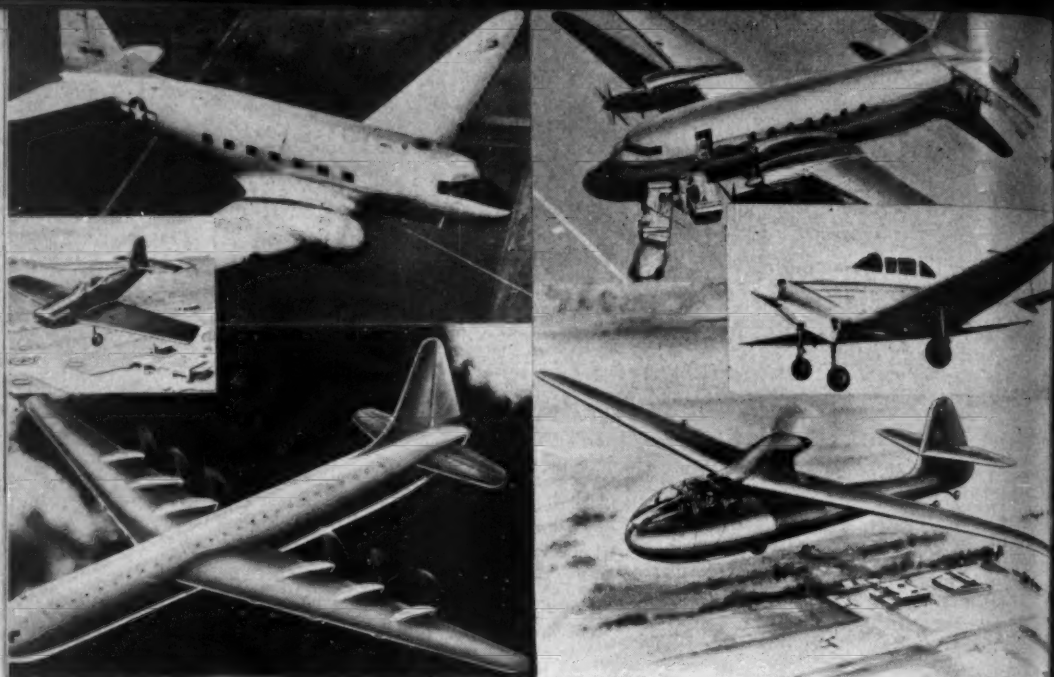
"Another interesting aspect of this situation is that it illustrates again that bigness or the monopolistic position of an industry is no protection against vigorous competition. Here the railroads are being challenged directly on their long-haul business, a challenge which will become of growing importance as the willingness to travel by air increases. Finally, this action in lowering prices will mean more jobs. More planes will be required to handle the traffic, more pilots and crews to handle the planes, and additional help to handle the various services connected with air transport. Such price reductions if adopted by many industries with new products or forms of service will provide one important means of absorbing the slack in the labor market. It represents, therefore, a socially desirable action as well as sound economics."

New DC-8 Hailed as Air Rate Slasher

A FEW hours before this issue went to press, the Douglas Aircraft Company, the Allison Engine Division of General Motors, and the Propeller Division of the Curtiss-Wright Corporation jointly took off the wraps from the DC-8—a new transport plane so radically new that the present air rate, which is the lowest in the history of air transportation, may go tumbling down once again.

Although the DC-8 can carry more than twice the number of passengers as the DC-3, the standard plane of most airlines, its wind resistance will be considerably lower than that of the latter craft. Douglas engineers estimate its direct operating cost at 41.6 cents per airplane-mile as against the DC-3's 36.5 cents.

The complete story of the DC-8 as well as pictures will be published in the October issue of *AIR TRANSPORTATION*.



AIRCRAFT OF ALL SIZES—Upper left is the XCG-17 glider, converted Douglas DC-3, now America's biggest motorless transport. Next to it is the Consolidated Vultee Model 110, 30-passenger postwar transport which will have a cruising speed of 275 miles an hour. Lower left is another Convair giant, the XC-99, military version of the Model 37; and on the right, the Jarvis VJ-21. Left insert is the SKYHOPPER and right insert the, ROCKET 185.

American Plane Talk

By HENWOOD HURLEY SEXTON

AVIATION news in the United States is anything but static. There's a liveliness in the air which maintains a steady drumming of progress in all the related fields. Even the lay public, becoming gradually attuned to the sky, has grasped the new meaning. Productiveness of new design and engineering speaks well for tomorrow's business.

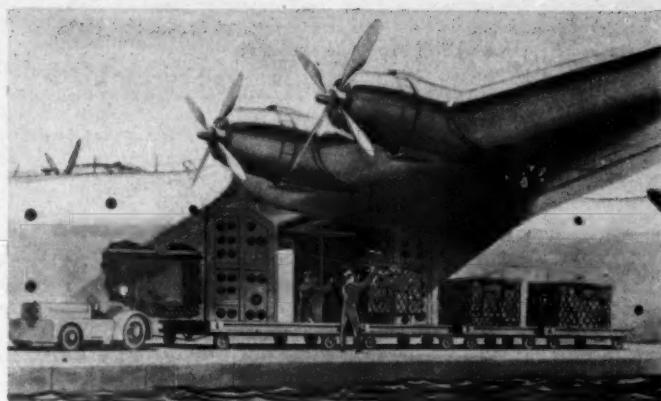
The *Hawaii Mars*, the first of 20 giant flying boats—the largest in the world—has been launched and turned over to the Naval Air Transport Service which gave the order for score of seaplanes. Seventy-two-and-a-half tons each, the big aircraft can accommodate some 135 passengers. Glenn L. Martin, president of the company which built the plane, predicted that "as weights of cargo increase, even greater and larger flying boats will be built."

Talking about cargo, a streamlined cargo-handling system has been devised for the Navy's *Mars* transports (JRM), which permits maximum utilization of cargo space, while time, paper work, and manpower for loading and unloading are reduced to a minimum.

"Load planning is the keynote," says the Martin Company, "determining the handling of cargo from the moment of arrival at the warehouse, to the time it is actually in the plane and until it reaches its final destination. Except for specially tagged, fragile items, or bulky articles like jeeps and airplane engines, individual handling of pieces has been eliminated. Regular cargo is segregated by destination, priority and bulk, and is stationed on the plane with due regard for convenient access as well as critical balance factors.

"Checking and segregation of cargo is performed in a warehouse adjacent to the flying ship dock. Special non-stretch nets, with eyelets at the four corners, are spread on specially constructed, oblong wooden flats which constitute a breakdown replica of the airplane

PROGRESS IN CARGO HANDLING—How the new system of cargo handling for the Martin Mars air transports has streamlined operations. Maximum cargo space is utilized with economies in time, paper work, and manpower.



cargo deck. Cargo is loaded to a uniform height on the flats and tightly netted by means of a rope run through the eyelets, so that no movement of pieces occurs. Each flat has a number which is used for cargo control purposes.

"When filled, every net is tagged by priority, destination and a number corresponding to the flat. It has been estimated that a mere two hours is needed to check 30,000 pounds of cargo, containing several thousand items, from trucks onto flats. All essential information, including flat-number, priority, destinations, weight and location in the plane, is graphically listed on several standardized, highly simplified forms. For practical purposes, the flying ship has been loaded on paper even before it arrives in port.

"Mechanical shop mules and trailers, rather than trucks, are used to haul the netted cargo shipside. A cargo-hoist built into the vast wing of the JRM-Mars picks up the nets and swings them into the main cargo compartment, leaving the flats behind. Three men, one working outside and two inside the plane, can easily load the entire flying ship.

"In the fore and aft compartments, where the cargo-hoist does not extend, low-wheeled 'skates' which are base equipment furnished with the plane can be used for moving cargo

to the desired location. Removing cargo from the 'skates' is facilitated by three evenly spaced rings imbedded in the coils, through which a block-and-tackle may be placed. Tie-down fittings and specially designed non-slip lashing equipment hold the nets in place during flight. Cargo destined for faraway ports is placed fore or aft in the ship, and that likely to be unloaded first is placed near the center. Main weight is at all times concentrated amidships.

"As soon as the plane arrives at an intermediate station, the transport officer there can tell by merely glancing at the standardized forms and manifests what the total weight off and weight through will be, as well as the compartment weight reduction. He is able to calculate rapidly the loads allowable to the next station and the plane's balance when intermediate loads have been removed. Thus delays are minimized in placement of local loads, and unloading crews at those stations can promptly locate the freight consigned to them. Through freight of high priority, meanwhile, is put through on one line to its final destination."

Lt. (j.g.) Douglas U. Stark, USNR, formerly with United Air Lines, is responsible for proposing the basic features of the new cargo-handling plan.



WORLD'S BIGGEST SEAPLANE—This Martin Hawaii Mars, hailed as the largest flying boat in the world, is the first of 20 built for the NATS. The 72½-ton craft can accommodate some 135 passengers.

The world's largest troop carrier land-based plane, designated XC-99, is being constructed by Consolidated Vultee. This is the military counterpart of the Model 37, 204-passenger luxury airliner first announced in the March, 1945, issue of *AIR TRANSPORTATION*.

The XC-99 has a wingspan of 230 feet, a length of 183 feet, and is powered by six pusher-type engines. Not only will the plane serve as a troop carrier, but also as a cargo transport and hospital ship. As a cargo plane it will carry a payload of 100,000 pounds over a distance of 1,500 miles. Loaded with 19,000 gallons of fuel, it will have a range (with a reduced payload) of some 8,000 miles.

Another Convair plane, the Model 110, announced as "a 30-passenger postwar transport with the ultimate in passenger comfort and operating efficiency," is expected to make its appearance. According to R. F. C. Taylor, Convair's commercial sales director, "the plane will carry heavier payloads with greater economy than were possible with prewar or current commercial transports, which now have been made obsolete by this new design."

The Model 110 will be a low-wing, twin-engine craft with a cruising speed of 275 miles an hour. This is nearly 100 miles an hour faster than the twin-engine transports now in the service of domestic airlines. Gross weight is 32,300 pounds, with a passenger-mail-express-baggage payload of 8,000 pounds.

Volmer Jensen, designer of the new Jarvis VJ-21, has thought up a two-passenger pusher-type plane which will cruise at a speed of 110 miles an hour and land at 40 miles per hour. This private plane, now under development, is expected to sell below the \$2,000 mark. It will have a top speed of 135 miles an hour and a cruising range of 400 miles. The long, narrow wings and round fuselage resemble the lines of a *Superfortress*. The Jarvis Manufacturing Company is located at Glendale, California.

In the \$1,000 class is the single-place *Skyhopper*. The prototype's fuel capacity is 10 gallons, giving a maximum cruising range of 275 miles. It is reported, however, that the production model of this private plane will carry from 15 to 20 gallons of fuel with a corresponding increase in range. Wingspan is 25 feet and length 18 feet; cruising speed is 110 miles an hour with top speed set at 125 miles an hour.

A third type of private plane is the *Rocket 185*. Designed to cruise at 185 miles an hour, the aircraft flew from Chicago to New York in a little over four hours with plenty of fuel reserve. It has a roomy cabin which can accommodate three people with ease. There's plenty of baggage room, too. Pointing up the economical side of the *Rocket 185* is its reported low operating cost—one-half cent per passenger mile. Wingspan is 31 feet and length 21 feet, seven inches. The estimated cruising range is 1,000 miles.

Number Four is the Commonwealth *Trimmer*, twin-engined, three-place amphibian, with a top speed of 132 miles per hour and a cruising speed of 115. Called a "business-pleasure plane," the *Trimmer's* three seats can be made up into two full-sized bunks. What's more, the ship has a built-in galley! Wingspan is 35½ feet, length 24 feet and 10 inches, while the cruising range is 600 miles. Price? Commonwealth says it will be "comparable to that of higher priced motor cars."

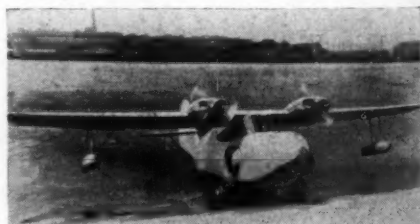
And so we come to the subject of gliders—in this case one glider, the XCG-17. If its picture looks familiar, there is a very good reason for that: the XCG-17 is a standard Douglas DC-3 (Army C-47).

Why the XCG-17? Well, this is the story: The Troop Carrier Command is gradually moving away from two-motored transports to the bigger four-engined ones. Hence, it became necessary to develop a new-type glider suitable for towing by such four-motored jobs as the C-54 *Skymaster* (Douglas DC-4).

The suggestion to convert a C-47 was made by Captain Chester Decker, known in prewar days as an A-1 sailplane expert. He was enthusiastically seconded by Captain Bernard J. Driscoll, aeronautical engineer and glider pilot. The project gave rise to a controversy between power pilots and glider pilots: Could a 26,000-pound airliner, stripped of engines, be handled safely by the average pilot.

There were tests with a standard C-47 whose motor had been cut dead. It came through with flying colors. Then came another ticklish problem: Could a powered airplane take it at the end of a nylon tow rope? Where to attach the tow rope? The Army engineers put their heads together, and it wasn't long before the answers to the problems were found.

Now the Army Technical Service Command has this to report about the XCG-17: It is America's largest glider. . . . It carried a payload exceeding seven tons. . . . Its stalling speed is 35 miles per hour, as compared with the CG-4's 55 miles per hour. . . . It can be towed as fast as 270 to 290 miles per hour—from 70 to 90 miles per hour faster than the conventional glider.



THE TRIMMER—Twin-engined private plane manufactured by Commonwealth Aircraft. It's an amphibian!

AIRDOM



*By Richard
Malikin*

(Trade Mark)

MIRACLES AT MIDDLETOWN

WE flew down to Olmstead Field, base of operations of the Middletown (Pennsylvania) Air Technical Service Command, to see what we could see—and we liked what we saw.

No weight of censorship sat on us like a ton of bricks. (The war was still on.) Brigadier General John M. Clark, commandant of the MATSC, struck the keynote almost as soon as the New York press party left the ATC C-54 *Skymaster* which had brought us from Newark Airport in less than an hour: *No holds barred. Write what you see—good or bad.*

We passed through the Reclamation Unit where, we learned, 80 employees saved the Government \$640,969.19 last May. And as if that wasn't enough, the four-score came back in June to elevate the figure to \$714,376.61.

Now there was that \$18,000 airplane engine which had gone through a number of tough battles somewhere overseas. The reclamation workers got down to business, and before you knew it some \$8,000 in spare parts were salvaged for re-use. MATSC Army officers take such achievements in stride, although not without a great deal of pride. Approximately \$12,000 a month are reclaimed in nuts, bolts, washers, fittings, and other small parts. Battle-worn clothing yield valuable zippers, buttons, and hardware. Scrap metal is compressed into cubes to conserve valuable shipping space and expedite handling.

We liked those warning posters staring implacably at us here and there: *Remember—A Concealed Mistake is a Crime. It May Cost a Brave Man's Life.* And so it is far easier to understand why repaired planes are checked and double-checked, with divers inspectors placing their John Hancock in proper spaces beside great lists of parts, and the records kept for the life of each plane.

MATSC workers are deep in overhaul work on C-54s. Most of these *Skymasters* have been hauling cargo "over the Hump" into China, and bringing wounded soldiers from across the Atlantic and the Pacific. Middletown is the only overhaul depot for this type of plane in the United States. Credit MATSC maintenance officials for developing a production line overhaul system that has stream-



MIDDLETOWN VISIT — Standing in the shadow of a C-54 *Skymaster* are (left to right) Major Richard Kulze, public relations chief; John F. Budd, publisher of *Air Transportation*, who headed the New York press delegation; and Brigadier General John M. Clark, commanding officer of the Middletown Air Technical Service Command.

lined completion of work. While a total of 20,000 man-hours are required to accomplish the 360 jobs needed on each of the big four-motored transports, it will be reduced to 11,000 man-hours within a short time.

The largest overhaul plant under one roof in the world, it affords space for one C-54 in each of the 16 stations. Consider, then, that overhauling of these planes is accomplished at 10 percent of the original cost.

There have been cases where certain emergency shipments were delivered to bases in

the South Pacific only 72 hours after the order was placed with the MATSC. The answer, of course, was air transportation. Naturally, there is special light packaging for airborne shipments.

Over 250,000 different articles are handled in this depot. At times a special order would cause a demand for more of a certain item than what was on hand at the moment. Here is where the plan would come in handy, flying to some distant point to pick up the cargo, and returning to Olmstead Field before the production line could shut down.

General Clark and his staff have encouraged the civilian employees at Middletown to enter their suggestions and ideas. These are carefully sifted, and as a result hundreds of articles have been perfected and invented by workers. MATSC has gone to bat for them, helping to get these men and women protective patents. Bonds are also awarded. Last year 2,400 ideas were turned in. One of these increased warehouse space by almost 100 percent without building a new structure.

BACKGROUND FOR A BIRTHDAY

LOOK around you. This is the silver anniversary of the nation's first coast-to-coast airway and of transcontinental air mail.

It was known back in 1918 that transcon-

tinental air mail service was coming, but there was no airway in existence. After its practicability had been established, the Post Office Department decided that the New York-San Francisco route was the most logical one. Although the first leg of the airway (Chicago-Cleveland) was established on May 15, 1919, the second leg (Cleveland-New York) on July 1, 1919, and the third (Chicago-Omaha) May 15, 1920, it wasn't until September 8, 1920, that the final link between Omaha and Frisco was completed.

And on that day 16,000 letters left Mineola, Long Island, at 6:14 a.m., arriving in Frisco at 2:25 p.m., September 11—82 2/3 hours later! Planes had carried the mail pouches during the day and trains through the night.

But this schedule did not give the plane too much of an advantage over the railroad. The next logical step was through day and night flights. Post Office Department pilots demonstrated the feasibility of this by taking off from Frisco on Washington's Birthday of the next year and landing in New York just 33 hours and 21 minutes later.

Result: a Congressional appropriation of \$1,250,000 for continuing the air mail service and lighting the airway. Regular day and night coast-to-coast air mail service was inaugurated on July 1, 1924.

After this epic bit of pioneering, the Post Office Department began turning over air mail operations to private contractors in 1926.

TRAIL BLAZERS—Among the earliest fliers of America's air mail were such sky pioneers as (left to right) Edward L. Langley, Edward V. Gardener, B. B. Lipsner, Maurice Newton, M. Miller, and Robert Shonk.



Nineteen years have passed since the air transport companies began to take over. How well they have done can be measured by the steadily rising graph line pointing to consistently smashed record highs.

THE WOMAN BEHIND AVIATECA

COMPANIA GUATEMALTECA DE AVIACION, S. A. (Aviateca), Guatemala's only local air freight and air passenger transportation company, is operated under the managerial genius of Mrs. Matilde Arguedas de Paul, the first woman ever to have been appointed to such a post in a major Guatemalan concern.

Mrs. de Paul, who is a native of Guatemala City, is a member of one of the better known families there. Educated in the United States—she graduated from Ursuline Convent in New Orleans and from the New Orleans Commercial School—the attractive Latin American *señorita* spent 14 years in this country, working in Louisiana and California.



Back to Guatemala she went where she spent the next five years in the employ of the United Fruit Company. But the United States called again, and this time her duties brought her into most of the important cities. For a while she established residence in New York, working as assistant secretary for the Inter-American Arbitration Corporation.

When she returned to Guatemala she married Ricardo J. Paul. Her husband died in 1940, at the time she held down the job of

secretary for Aerovias de Guatemala, S. A. Assiduous application to the many phases of air transportation, particularly to those aspects affecting the speedy transport of passengers and goods to remote spots in her country, gave her considerable know-how. Gradually the routine of management was shifted to Mrs. de Paul's shoulders.

In May of this year Aviateca was organized and Mrs. de Paul was appointed acting manager. Two months later the company stockholders got together, and after a round-table conference elevated the woman to general manager.

The Department of Petén, which is located in Northern Guatemala, is isolated from the rest of the republic except by air. Aviateca furnishes transportation of all foodstuffs, clothing and other articles necessary to the life of the inhabitants of Petén. Thousands are employed in the department by chicle companies. The United States Government Rubber Reserve Company also utilizes the services of the local airline for the hauling of supplies.


At the present time Aviateca is serving 20 airports. Its planes are transporting an estimated eight million pounds of freight and 15,000 passengers a year.

UAL'S Chicago-West Coast Round Trips Now Total 22

Filing new proposed schedules with the CAB, Vice President-Traffic Harold Crary of United Air Lines announced the equivalent of almost hourly 'round-the-clock passenger and cargo flights between Chicago and the Pacific Coast beginning this month.

Two additional daily round trips on the Chicago-San Francisco section of United's coast-to-coast route have brought to 22 the number of daily round trips linking the Windy City with the West Coast. In addition, the airline operates 16 flights between Chicago and the East. The new service, totaling 7,882 miles, boosts the airline's operations to a new high of 128,747 miles a day.

FIRST PORT OF CALL FOR THE WORLD'S AIR TRANSPORTS . . .



Sheraton Hotel

E. CURRY DUGAN,
General Manager

Just 5 minutes from Newark Airport

15 HILL ST., opp. City Hall, NEWARK 1, N. J.



Agenda for Interim Council Provisional International Civil Aviation Organization

Montreal, Canada

PART I

1. Opening address by the representative of the Government of Canada. Replies on behalf of assembled States.
2. Appointment of a temporary chairman.
3. Review of the general purposes of the organization by the temporary chairman. Consideration of the general organization and of the Council's relations to its committees. General discussion thereon.
4. Consideration of proposed rules of procedure of the Interim Council.
5. Election of the president and his acceptance.
6. Appointment of the secretary general.
7. Election of other officers.
8. Designation of committees of the Council as may be required by the rules of procedure adopted.

PART II

1. Submission of order of business by the president for approval.
2. Rules of procedure of technical committees and subcommittees.
3. General review of status of annexes considered at Chicago (November, 1944).
4. Preparation of schedule of first group of subcommittee meetings.
5. Consideration of the general organization (establishment).
6. Personnel and financial regulations.
7. Consideration of preliminary (first six months) budget. Arrangements for temporary financing.

PART III

1. Problems of airway organization, and of promotion of uniformity of air navigation facilities, universal provision of landing areas, meteorological organization, and communications, at least to some minimum standard.
2. Plans for compilation of lists of airports and air navigation facilities

available for use in international air navigation.

3. Arrangements for reception, registry, and publication of agreements relating to international air transport, as required under Article XIII of the Interim Agreement.
4. Development of a general publication policy for PICAQ.
5. Resumption of studies on the development of multilateral agreement relating to commercial rights in international air transportation.
6. Planning of other special studies on air transport, including those relating to commercial rights in international air transportation.
7. Consideration of proposals for amendments to the permanent convention.
8. Consideration of relations with CINA.
9. Consideration of relations with the CITEJA.
10. Consideration of relations with other international organizations.
11. Consideration of the need for regional organizations within the framework of PICAQ to deal with problems peculiar to particular areas.
12. Preparation of studies on the unification of numbers and systems of dimensions in international air navigation.
13. Consideration of procedure to be adopted by the Council for the handling of
 - (a) arbitral proceedings
 - (b) complaints of excessive airport charges
 - (c) complaints of "action causing injustice or hardship" under the Transit Agreement or the Transport Agreement.
14. Consideration of the degree and nature of the assistance to be rendered by PICAQ to the member States under the provisions of Article XI of the Interim Agreement.

Dr. Warner, CAB Vice President, Elected Head of PICAQ Council

DR. EDWARD P. WARNER, vice chairman and a member of the Civil Aeronautics Board, has been unanimously elected president of the Council of the Provisional International Civil Aviation Organization which last month opened its important conferences in Montreal. His election will necessitate resigning his CAB post where he has served for six years. Albert Roper of Paris likewise won unanimous approval for the position of secretary-general.

An interesting sidelight to Dr. Warner's elevation is that he was nominated by Sir Frederick Bowhill, British member of the council. Colonel Gerald Brophy, just released from the Air Transport Command and before the war a member of a New York law firm, specializing in aviation law, will take over Dr. Warner's duties as United States delegate to PICAQ.

The council is faced with the task to meet the problems on international air transportation, described by the new president as one charged with "strident urgency." He pointed out that airlines throughout the world, receiving new equipment from manufacturers and governments, will be ready to begin operations within a few months. Another problem to be overcome was the standardization for civilian international use of war-born devices developed for the military. The most important of these developments was radar.

Twenty nations were represented at the conference. Official representatives of the different countries to the Interim Council were: Dr. Edward P. Warner, United States; Sir Frederick W. Bowhill, United Kingdom; Sir Guranath Bewoor, India; Henri Bouche, France; Colonel Cesar Alvarez, Peru; Dr. F. H. Copes van Hasselt, Netherlands; Chiang Kai-gau, China; Ali Faud, Iraq; A. R. McComb, Australia; Anson C. McKim, Canada; Mohamed Rushdi Bey, Egypt; Orhan H. Erol, Turkey; Dr. J. Reisser, Czechoslovakia; Major Jean Verhaegen, Belgium; Alf Heum, Norway; Francisco Parraga Orozco, El Salvador; Guillermo Eliseo Suarez, Colombia.



Dr. E. P. Warner

LAV Branching Out To Other Countries

Last July an international air service was established between Venezuela and Brazil by Linea Aeropostal Venezolana (LAV) which, in the near future, will extend its services to other countries as well.

Increased international activity is a logical step in the progress of the airline, which has had 11 years and seven months of uninterrupted and expanding service since the time it was purchased by the Government of Venezuela in 1934. At that time air runs connecting eight important Venezuelan cities were begun, and the first exploration trips to the region of the Gran Sabana were made.

Two years later the Government leased it under contract for exploitation to Lieutenant Colonel Francisco Leonardi, who broadened the company's itinerary and reduced the passenger rates by 50 percent. An official decree on May 21, 1937, declared LAV an autonomous organization.

During the past eight years both the number of its airplanes and the number of cities served have steadily increased, so that today the company has a regular daily service to 29 Venezuelan cities and carries a daily average of 105 passengers. (The airline covers 3,193 unduplicated route miles.) At the present time LAV operates seven Lockheed Electras, five Lockheed Lodestars, one Stinson, and one Howard.



Lt. Col. F. Leonardi

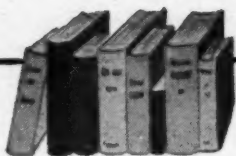
LaGuardia Airport Cramped

With the news that TWA is beginning familiarization flights to Ireland, fears have been expressed that the capacity of LaGuardia

Field, New York, will be taxed beyond its limits before the new Idlewild Airport will be open.

LEGAL NOTES

on Air Transportation



By GEORGE BOOCHEVER

*Chairman, Legal Committee, Aviation
Section, New York Board of Trade*

Airports as Nuisances

THE growth of air transportation will bring with it a great increase in the number of airports which it will be necessary to establish in that connection. The number of such airports in contemplation has been stated as 3,000. This development will bring in its train consequences which were not anticipated, such as disturbance of the peace

and quiet of many residential and rural areas which have hitherto been the refuge of city dwellers, to say nothing of more serious hazards by reason of take-offs and landings at low levels, which can be a source of annoyance and disturbance to persons and property adjacent to the airport.

A number of cases have already considered the question of whether or not an airport is a nuisance. From an examination of the authorities, the following statement is warranted: An airport is not a nuisance per se, but may become one if improperly located, constructed or maintained.

For the most part, the cases which have come into the courts have involved airports in operation rather than attempts to deal with anticipated difficulties. In one instance suit was brought to obtain injunctive relief to prevent the acquisition of a permit required by statute and to enjoin the establishment of an airport on the ground that it would become a nuisance. The application was denied on the ground that it was held that the evidence did not establish that the airport would become a nuisance.

There are cases which have held that the creation of dust not resulting from the ordinary or reasonable use of an airport may be enjoined. Relief has been granted where grounds for apprehension existed, by reason of low altitude flights. An airport has been enjoined from creating an unreasonable noise; a combination of objectionable features including noise, furnished the basis for an injunction. Low flying over buildings has been enjoined as a nuisance. An injunction has been granted against the operation of an airport where it was not shown that it could be operated in an unobjectionable manner, which applies especially to an instance involving a flying school.

On the other hand, an attempt to restrain the condemnation of certain land to be used by defendant as a proposed municipal airport, on the ground that it would create a



GETTING READY—Tore Nilert (extreme right), official of Swedish Intercontinental Airlines in New York, welcoming Swedish aviation figures upon their arrival at LaGuardia Airport. Left to right are Gunnar Johnson, chief construction engineer of the Atlantic Airport in Stockholm; Carl Ljungberg, director general of the Royal Board of Civil Aviation, which corresponds with the United States Civil Aeronautics Board; and Captain Tage Joneberg, chief of the traffic division of the Royal Board. The arrival marked the fifth survey flight between Stockholm and New York made by SILA's converted Flying Fortresses. Ljungberg's mission is to consult with officials of the State Department, CAA, CAB, and the ATC concerning arrangements necessary to establish scheduled service between the two cities via Canada or Newfoundland and Iceland; Joneberg's is to study American communications and traffic control methods; and Johnson's to investigate airport construction, particularly that of Idlewild.

nuisance through disturbance incident to its normal operation so as to prevent plaintiff's use of three school buildings located nearby was denied, and the decision was upheld on appeal that mere apprehension of injury from tailing planes is not a basis for injunctive relief, nor for denial of an airport permit. The depreciation of adjoining property value affords no basis for injunctive relief; the existence of historic shrines in the vicinity of an airport did not prevent the granting of an airport permit. An injunction was refused where the flying was over bush land and there was no evidence of danger or intentional annoyance and interference with the use of the land. In the absence of some injury to possession, the claim that low flights constituted a trespass and should be enjoined was denied.

In conclusion, a review of the decisions indicates that airports will be permitted to operate as long as they do so without creating objectionable conditions, but where objectionable conditions are maintained, depending on the facts, relief will be granted.

Aero Transport Corp. Has Score of Cargoplanes For Caribbean Air Freight

A fleet of 20 flying boats, each with accommodations for 4,500 pounds of air cargo with a bulk of 600 cubic feet, is already making charter contract flights between Tampa, Florida and Havana, Cuba, operating under the name of Aero Transport Corporation. Heading the newly organized air freight service is W. B. Haggerty.

Called the "tramps of the air," these cargo planes have a cruising speed of approximately 110 miles per hour, making the Tampa-Havana

run slightly under three hours. They are capable of flying at altitudes that will maintain temperatures of from 35 to 40 degrees in cargo compartments, eliminating the necessity of refrigerating perishables.

Haggerty stated that the Aero Transport Corporation is "in a position to charter contract on a per-hour basis for a minimum plane load," or on a per-pound basis "for any lesser quantity of freight from a pound on up." Present offices are at the Peter O. Knight Airport, Davis Islands, Tampa 6, Florida; and c/o Dussaq & Toral, S. A., Lonja del Comercio, Havana, Cuba.

NSFC Flies Fresh Produce From West Coast to East

Two cargoes of 10,000 pounds each of packaged vegetables destined for the markets of Detroit and Atlanta, took off from Salinas and Bakersfield, California, late last month—the vanguard of the West Coast's first contract non-schedule air freight shipments flown by the National Skyway Freight Corporation.

Shipped by the Ralph E. Myers Company, the West Coast's largest grower and shipper of packaged vegetables, the principal cargo air-hauled by NSFC included strawberries picked on the morning of shipment. These were on the breakfast tables of Eastern cities the following morning. Other perishables carried on the flight were plums, peaches, pears, and nectarines.

The new contract air freight carriers operates seven *Conestogas*, each having a capacity of 10,000 pounds of cargo. It is understood that the Myers Company and National Skyway officials are negotiating for regular transcontinental fleet shipment of seasonal produce.



FLYING FREIGHTER—Seven such *Conestoga* cargo planes are operated by the National Skyway Freight Corporation in its contract-non-schedule air freight shipments.



(Trade Mark)

Representatives of 20 nations comprising the Interim Council of the Provisional International Civil Aviation Organization (PICAO) meet in Montreal on August 15.

Sir Stafford Cripps, former Minister of Aircraft Production, has stated that the British possess "an aircraft industry second to none," capable of producing "the best aircraft in the world."

United Air Lines is prepared to spend approximately \$52,000,000 on expansion and improvement of facilities, aloft and on the ground, as soon as wartime conditions permit. Fifty four-motored Douglas transports already have been ordered.

Letters not exceeding two ounces and non-illustrated post cards are now accepted for dispatch by air to Finland, Estonia, Latvia, Lithuania, and Poland.

Prospects and Problems in Aviation, a comprehensive review of the history and development of aircraft manufacturing and air transport, as well as an analytical study of the postwar problems and outlook for both of these phases of aviation, has been published by the Chicago Association of Commerce, 1 North LaSalle Street, Chicago 2, Illinois. The paper-bound book sells for two dollars per copy—and is well worth the price.

Successful inflation of large airplane tires with helium instead of air has been announced by the Goodyear Tire and Rubber Company whose technicians described the innovation as an important step in American aviation progress.

Denmark has completed first test flights on new air routes between itself and the United States.

National Airlines has requested the CAB for special tariff permission to file new low fares. If approved, it will mean an average reduction of 7½ percent on NAL fares over the entire system.

In preparation for the expansion of international aviation after the war, the Intava organization, which coordinates foreign aviation marketing activities of the Standard Oil Company of New Jersey and Socony Vacuum Company, Inc., interests, has moved its headquarters from London to New York.

John McKenzie, New York's Commissioner of Marine and Aviation, will retire after the end of the year. Mayor Fiorello H. LaGuardia will appoint him as a magistrate.

Adopting the airline stewardess idea, the NATS has assigned 10 WAVES as orderlies on the giant Douglas *Skymasters* hopping from Oakland to Pearl Harbor.

John F. Budd, chairman of the Aviation Section, New York Board of Trade, in opening the Section's Fourth Forum on Air-Age Transportation, urged the Port of New York Authority and the Regional Plan Association of the City of New York to anticipate lighter-than-air operations to and from foreign ports, and to plan at once to locate a suitable terminal close to the city.

The temporary exemption order issued by the CAB permitting Pan American Airways to carry local passengers, mail, and express between Ketchikan and Juneau has been rescinded. Clippers will continue to link the two cities on through flights between Alaska and Seattle.

The postwar air power of the United States will be seriously jeopardized unless public opinion in every community is mobilized to support small airport development, civilian pilot training, aviation education, and publish interest in flying, Henry J. Kearns, president of the United States Junior Chamber of Commerce, said recently.

Atlantic Airlines has filed an application with the CAB for a route to link New England with the South. S. J. Solomon, formerly chairman of the board of NEA, declared that his newly organized corporation plans to provide low-cost air transportation between Providence and New Orleans.

Dr. John B. Crane, marketing economist for the Glenn L. Martin Company, has expressed the belief that international air travel will aid greatly in solving international trade problems. He estimated that 2,000,000 Americans will travel by air to foreign lands each year, and spend \$200 while abroad.

On March 24, the total load taken to Wesel, Germany, by English and American planes and gliders was almost 3,000 tons.

Aerovias Braniff has inaugurated daily round-trip air service between Mexico City and Merida, Yucatan via Pubela and Vera Cruz. This service is on the first leg of a route to Miami granted the airline by the Mexican Government, via Havana.

Alaska Airlines, based at Anchorage, will carry mail between Fairbanks and Anchorage. Woodley Airways, also based at Anchorage, will carry passengers, property, and mail between Kodiak and Homer.

A particularly interesting booklet, *Introducing Liquid Envelope*, is available by writing Better Finishes and Coatings, Inc., 168 Doremus Avenue, Newark, New Jersey. It explains the nature, application, and work of the new tough, elastic, impervious film for the protection of materials or equipment in transit or in storage.

Mid-Continent Airlines has refiled an application for a certificate of public convenience and necessity to include Springfield, Missouri, Little Rock, and El Dorado, Arkansas, and Monroe and Baton Rouge, Louisiana, as intermediate points on Route 26.

The CAB has approved the application of National Airlines for authorization to fly nonstop from Miami to Jacksonville on its Route 31.

American Airlines has filed with the CAB for the reduction of its air passenger rates an average of 7½ percent. Effective date would be August 15.

British Overseas Airways has inaugurated regular flights from Baltimore to London on Sundays, Tuesdays, Thursdays, and Fridays. Fare, one way, is \$572 plus United States Government tax of 15 percent. Baggage in excess of 55 pounds is allowed at the rate of \$2.60 a pound.

Casey Jones, president of the Casey Jones School of Aeronautics and the Academy of Aeronautics, LaGuardia Field, New York, has announced that operation of the two institutions will be consolidated at the airport at the start of the Fall term in September.

MARTIN PLANE FOR WESTINGHOUSE STRATOVISION—Artist's conception of the Glenn L. Martin stratosphere plane with accommodations for a flight crew of three and six radio technicians. Eight such aircraft would blanket the country.



Westinghouse to Use Martin Planes in Television Tests

First test flights of a new system of television and FM radio broadcasting from Martin stratospheres cruising six miles in the air are expected to take place this fall.

According to Walter Evans, vice president of the Westinghouse Electric Corporation, the tests, "if as successful as all our specific information and ultra-shortwave experience in-

dicate it will be, stratovision would make coast-to-coast television and FM broadcasting possible at a reasonable cost, and would permit these services to be broadcast to even the most isolated farm homes many years ahead of any previously suggested system."

C. E. Evans, 27-year-old Texas-born Westinghouse engineer, who originated the stratovision system, explained that "television and FM radio waves travel in a straight line and for all practical purposes stop at the horizon,"

KLM ROYAL DUTCH AIRLINES NOW

**TWENTY-ONE PASSENGER DOUGLAS DC-3's
FLY KLM'S MAIN ROUTES IN THE WEST-INDIES**

- MIAMI
- CAMAGUEY
- KINGSTON
- PORT AU PRINCE
- ARUBA
- CURACAO
- LA GUAIRA
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Line or Air Express International, Inc., Miami, Fla.



WORLD'S OLDEST AIRLINE

which means that television broadcasts from the highest tower erected on the ground are effective only within a radius of 50 miles.

Placing the antenna and transmitter into one of the specially planned Glenn L. Martin planes flying in easy circles 30,000 feet above the earth, shortwaves would be sent out, blanketing the earth "like a great inverted ice cream cone, covering an area of 422 miles across, or equal to the combined area of New York, Pennsylvania, and New Jersey."

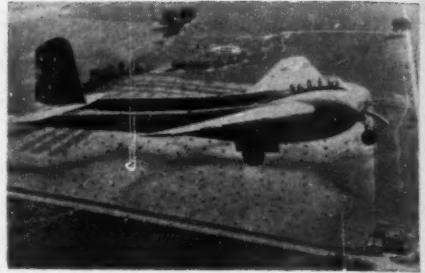
It was disclosed that as the height of a television or FM antenna is increased, the amount of power required to deliver a usable signal to a receiver is sharply reduced. Evans said that, as conceived at the present time, the plan would employ four television and five FM transmitters on each plane. A coast-to-coast network for relaying programs from plane to plane would require stationing eight such stratosphere planes above the strategic areas spanning the continent.

Present plans call for all metal, low-wing monoplanes, almost as large as a *Superfortress*, but one-third its weight. Powered by two engines, the Martin planes would cruise at less than 150 miles per hour and be equipped with the most modern de-icing and blind landing equipment. Two planes would be in the air at all times—one broadcasting, and the other standing by to take over in the event of an emergency.

Latest in Motorless Transports is XCG-16A

The XCG-16A, a twin-boom, single-tail glider having a wing span of 91 feet and nine inches, a length of 48 feet and three inches, and with flying wing design features, has been revealed by Air Technical Service Command at Wright Field, Dayton, Ohio.

Its cargo compartment is actually an en-



XCG-16A IN FLIGHT — The new General American glider shown as it is towed over Clinton Army Air Field, Wilmington, Ohio, by a B-17 Flying Fortress.

larged part of the center airfoil section. The leading edge of the fuselage section is made up of two plexiglass doors lifting upward by means of hand-operated jacks, while the forward section of each cargo floor is hinged to form a loading ramp when lowered. Twin cargo compartments carry a jeep or a 75 mm. howitzer in each section and troops sit in rows as they would in a motion picture theatre. Another distinctive feature is that unlike the CG-1CA, in which pilot and co-pilot sit side by side, the cockpit of the CG-16 is set on top of the wing-like fuselage and is arranged in tandem.

The glider was designed by Howley Bowlus, prominent glider engineer, in peacetime years, and was built by the General American Transportation Company of Chicago, Illinois.

Swiss Flying Again

Isolated from the world for a year, Swiss commercial aviation is back once more. Daily flights have been inaugurated between Zurich, Geneva, and Paris.

AIR VAN AFTER A FLIGHT — Thirteen hours after this American Airlines-leased Consolidated Vultee Model 39 left LaGuardia Field, New York, it landed with its more than nine-ton cargo of household goods at Lockheed Airport, Los Angeles. The cargo consisted of pianos, refrigerators, and standard furnishings for four six-room houses. Cooperating with the Chelsea Fireproof Warehouse, Inc., of New York, whose customers were shipped, was the Beverly Hills Transfer and Storage Company which operates five warehouses in and around Los Angeles. The picture shows a Beverly Hills van backed up to the air van discharging its load.



"Come an' get it"

... By AIR!

The part air express will play in the future production and distribution of foods is exemplified by the volume of express shipped via plane during the war years, when the total weight of packages and their average poundage increased by 345 percent and 170 percent, respectively.

The Air Transport Association of America, in revealing the tremendous rise in air express, has also disclosed that an all-time record was established last year as 1,773,823 packages weighing 34,276,834 pounds were flown by the domestic airlines. Air express shipments for the past three years, 1942-44 inclusive, climbed to 84,705,892 pounds.

Whether the postwar dishes most likely to tickle the palate are produced in the next county, next state, or as far away as the length of the continent, gourmets should have no trouble in obtaining their chosen delicacies with lightning-like speed, utter safety and at a moderate cost.

Another of the principal roles played by air express in the past in keeping up the production of choice edibles has been the delivery of new machinery to replace broken and otherwise discarded parts. Such was the case history of the Frozen Food Center at Ashland, Ohio, which faced a possible loss of foodstuffs when a compressor on one of the refrigerators broke. Informed that the replacement had to be secured from Chicago, the manager of the center ordered their delivery via air express. In a matter of hours the compressor was working again, and the threatened food damage had been averted.

Berniard's Bakery at Morgan City, Louisiana, which was damaged by fire, saved bread-making time by ordering replacement machinery via air express. Mity-Fine Bakery at Lansford, Pennsylvania, had replacement parts forwarded air express to prevent delayed stoppage of their bread-wrapping machine.

Innumerable bakeries use air express to

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CUSTOMS BROKERS AIRLINE AGENTS

AIR EXPRESS INTERNATIONAL AGENCY, INC.

Division Offices

NEW YORK MIAMI LAREDO NEW ORLEANS LOS ANGELES

Agents Throughout the World

Hannegan Proposes 5-Cent Air Mail Rate in Aviation Section Address

Budd's Plan for a "Mail Plane Airbase" In Heart of New York Wins Wide Notice

POSTMASTER GENERAL ROBERT E. HANNEGAN in a commemoration speech on the 25th anniversary of transcontinental air mail delivered at a luncheon sponsored by the Aviation Section of the New York Board of Trade, declared flatly that he would come out for a five-cent air mail rate six months after the official end of hostilities. The function took place on September 7 in the Grand Ballroom of the Waldorf-Astoria.

"Under our economic system," said Mr. Hannegan, "our business people know that one of the best and quickest ways to get the American people to buy a good product or use a good service is to lower the cost. There is no public education like the good old American method of offering the people a fair bargain.

"I believe this principle applies to the postal service as well as any other. . . . I believe many more people would use air mail if it were cheaper, and I also believe that if many more people did use it, the resulting increased volume would bring down the unit cost of delivery, and, within a reasonably short time, justify the cut."

John F. Budd, chairman of the Aviation Section, in his opening remarks as toastmaster, revealed his plan for a "mail plane airbase" directly behind the General Post Office in New York. Stressing the point that the area was wide open from the rear of the post office westward to the Hudson River, Budd stated that air shuttle service of air mail between the post office and the airports surrounding the city would cut the 45-minute mail truck trip to a mere fraction. He also cited the fact that all air mail from the Bronx, Brooklyn, Staten Island, and part of Queens must go to Manhattan before it is sent on to LaGuardia Airport.

Honorary chairmen of the affair were Mr. Budd and Reed M. Chambers, president of the Wings Club.

Representing the City of New York, Commissioner John McKenzie was presented with a plaque from United Air Lines as have other high officials along UAL's cross-country route. The city's Number One welcomer, Grover Whalen, former police commissioner and chairman of the board of Coty's, Inc., was on hand to do the honors. A note of humor entered into the proceedings when Sumner Sewall, former Republican Governor of Maine and presently president of American Export Airlines, introduced the postmaster general, a leader in national Democratic affairs. New

York's postmaster, Albert Goldman, also took part in the program.

Mr. Hannegan's speech, which was heard by a large assemblage of leaders in the fields of aviation, commerce, and industry, was devoted to the future of air mail. It was greeted as an indication of Administration policy—something to which many had looked forward.

The luncheon committee on arrangements comprised Chairman W. L. Baker, manager, Aviation Sales Department, Socony-Vacuum Oil Company; D. H. Ecker, executive secretary, Aviation Section; J. Kirk Baldwin, general manager, *Airports Directory*; Herman Brooks, president, Coty, Inc.; James Graham, production manager, United States Aviation Underwriters; H. J. Lyall, chairman, Airlines Committee, Aviation Section, and president, Airlines Terminal; Cord Meyer, Cord Meyer Company; Robert Ruddick, assistant to the president, United Air Lines; and James A. Leftwich, public relations counsel, Aviation Section.

"Come an' Get It!"

(Continued from previous page)

ship their cakes, pastries and other select morsels, including Little Home Bakery at Meadville, Pennsylvania, while Plains Cooperative, Inc., of Plainview, Texas, had some shipments of butter flown to Chicago and Los Angeles in order to meet date requirements of laboratories.

And then there was the case history of a traveling representative of an American tobacco company in Managua, Nicaragua, who wished to entertain local friends and customers with a state-side feast on short order. He solved his problem by having two choice southern home-cured hams, around which he proposed to build his goodwill meal, plus samples of fine tobacco grown in Greene County, Tennessee, flown to him via international express. Yes, air express plays an important part in food distribution.



Airborne Posies Pass UAL Test with Flying Colors

The air transportation of perishables has been given another boost with the development of a new refrigerated container.

Working in cooperation with United Air Lines, Owens-Corning Fiberglas Corporation of Toledo supplied Fiberglas cloth and lightweight Fiberglas thermal insulation to construct a special insulated cargo container. The container weighs 25 pounds and has a capacity of approximately 120 cubic feet. The top is equipped with five pockets which accommodate slabs of dry ice one inch thick and 10 inches square. Access to the interior is made possible by a zippered "V" running almost the entire height of one side.

Constructed to fit into the larger cargo pits of United *Cargoliners*, the container first was tested inside a hangar at San Francisco. It was hung on a temporary framework and dry ice was inserted at 10:15 p. m. when the outside temperature was 66 degrees. By midnight the temperature inside the container had dropped to 32 degrees although the outside temperature had dropped only to 60. This temperature was maintained until all the dry ice had been absorbed seven hours later.

Because of the success of this test the container next was installed inside a *Cargoliner* pit. Sewn to the top of the container are four lateral rows of small rings, five rings per row. Through these rings five steel rods were inserted and the rods in turn were fastened to cargo-net tie-down rings. The entire installation was made in six minutes.

On the first test flight, 35 boxes of gardenias weighing six pounds per box, totaling 1,440 gardenias, were flown via air express on a non-priority basis from San Francisco to Chicago at altitudes ranging between 9,000 and 11,000 feet.

Five slabs of dry ice, totaling 23 pounds, were inserted at San Francisco. Just west of Denver two more slabs were added and at Omaha an additional five slabs were inserted. These were placed in the container at Omaha mainly because the outside temperature and cabin temperature ranged as high as 102 degrees. Inside the container, the temperature never rose above 52 degrees. Cabin temperature remained at 100 degrees while the ship was on the ground for almost 30 minutes.



FLYING FLORAL REFRIGERATOR—Inside this Fiberglas insulated container cooled by dry ice are a large quantity of gardenias. A United Air Lines cargo handler inserts one of the five slabs of dry ice necessary for cooling.

In spite of these high temperatures, nine pounds of dry ice still remained in the pockets at Chicago.

The following is an excerpt from United's engineering report on the flight:

"Upon unloading the flowers, an inspection was made in an attempt to determine their quality. Thirty-four boxes had been placed in the insulated pit and the other box was kept in the open cabin. The flowers in the single box were dehydrated to the extent that the stems were dry, while those in the refrigerated pit were moist and fresh with signs of droplets of moisture present on each stem."

Admiral Rosendahl to Speak

Airships for United States Transoceanic Trade will be the topic of an address by Rear Admiral Charles E. Rosendahl, who will appear as the sixth speaker in the Air Age Transportation Luncheon Forum series at the Hotel Roosevelt in New York on September 21.

IT'S AN WORLD

REG. U. S. PAT. OFF.

By L. A. GOLDSMITH, *Economic Analyst*, AIR TRANSPORTATION

RECENTLY there came to my attention a novel approach to world markets through world air transportation, with its focus on 26 foreign traffic generating areas. The thought underlying this entire idea has held my interest to an absorbing degree, because it is so

Foreign Traffic Generating Areas for World Air Transport Effective and Novel Method Of Modern Market Analysis Approach

basically fundamental, and shows such a thorough understanding of what world trade is all about. In the breadth of its conception this strikingly different approach to world markets is specially suitable to global trade expansion in the Air Age.

This designation, "Foreign Traffic Generating Areas," seems to have been originated by TWA to describe 26 world areas, each containing several important cities and covering in all 44 countries. TWA describes such an area as "a region capable of supporting air transportation because of certain inherent characteristics. They consider that there are "eight prime factors which in combination, determine the extent of a traffic generating area." These are listed as follows:

- | | |
|---------------|------------------------|
| 1. Location | 5. Industrial capacity |
| 2. Population | 6. Climatic energy |
| 3. Topography | 7. Tourist appeal |
| 4. Resources | 8. Political aspects |

With these eight factors as enumerated, everything needed for the book is practically covered. As a specific example of a foreign traffic generating use, let us look at one of the Middle East areas. This is the section dominated by two cities: Teheran, Iran's capital, and now world famous as the conference city of the Big Three; and Basra in Iraq, situated on the Persian Gulf. This traffic generating area not only contains these two major cities of between 500,000 and 1,000,000 population, but also has nine other cities ranging from 100,000 to 500,000 inhabitants. Naturally the area checks up favorably on a preponderance of the already mentioned eight prime factors.

The idea embodied in the development of these areas of the world is not a hit-or-miss affair. The planned operations are evidently the result of detailed research study and analysis. It is far more fundamental than starting out from only one or even more than one city as a pivotal base of marketing and sales promotion. It is a new and modern concept, bold in scope and right in line with the broad sweep of air transportation potentialities.

TWA stresses the point that its research has been conducted by experts in foreign trade. This is apparent on the face of it. The foreign trade experts who developed this analysis of the foreign traffic generating areas certainly know their stuff! Their conclusions are that the United States "has strong ties of commerce, diplomacy, and security with 26 areas of the world." TWA is convinced that these areas "can be linked securely by air routes" such as their projected "trans-world" air line.

TWA's Objective is to "Tap" 10 of the 26 Traffic Areas By Means of the Proposed "Trans-World" Airline

TWA further points out that each area will have traffic with all the other 25 areas. The 10 areas which TWA envisages for its own airline will, of course, be served by other airlines—as many as the locations and their trade justify, and the various airlines find advantageous to fly. TWA will only be one of the many links with the other 16 traffic areas connecting everywhere with all global air transportation routes.

The actual areas comprising the 10 selected for the proposed "trans-world" airline, can

perhaps best be indicated by giving the names of the cities approximately scheduled as TWA's foreign terminal airports. The areas mentioned in relation to the terminal cities are merely personal estimates of the writer, and should not be considered as definite or actual area allocations. The cities tentatively selected are:

LONDON (*United Kingdom and Eire*); PARIS (*France, Italy, and Spain*); BERLIN (*Germany and Central Europe*); ATHENS (*Greece, Turkey, and Balkan countries*); CAIRO (*North Africa, Egypt, Levantine countries, and crossroads for innumerable connecting areas*); BASRA (*Iran, Iraq, Saudi Arabia, and other Middle Eastern locations*); CALCUTTA (*A focal area for all of India and connecting areas*); SHANGHAI (*A "twin-headed" focal point which could cover two major areas including China to the South and to the North into Manchuria and up to the borders of Mongolia and Siberia*); TOKYO (*Japan and then back home through the Aleutians, and Alaska*).

Summing it all up, TWA highlights this different approach to traffic generating areas throughout the world by pointing up a few other salient factors regarding the line's proposed 'round the world air routes, such as: (1) No point on the route is more than 38 hours from any other point on the route, and (2) links four continents, taps 10 of the 26 traffic generating areas, and serves 44 countries on a 20,000-mile international route. And then comes along comparisons regarding similar latitudes of widely separated places. For example, Calcutta is on a parallel with Miami! Tientsin compares with St. Louis; Cairo with New Orleans. Most of the TWA world air route lies in the same latitude as the United States. We certainly must learn to think in terms of azimuthal projections and forget all about Mercator's—streamline our geographical valuations and re-orient our minds to Great Circle flying routes. Otherwise we will feel like the immortal Alice who had to run just as hard as she could even to stand still in one spot! In the Air Age we can expect anything. Over the air a few days ago I heard a very reputable science editor predict the possibility of no spot in the United States being further away than 20 minutes from any other spot. This would not be spooks but jet propulsion attuned to the atomic age.



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Professor Erwin H. Schell of the Massachusetts Institute of Technology declares in a recent letter to his former students that "new patterns will overlay each other with greater frequency. That they may be better or worse is a secondary fact. The important principle is

New Patterns in Today's Changing Air World Demand Greater Speed, Flexibility For Successful Management

that constant acclimatization to a rapidly changing environment will increasingly become a routine technique in all forms of management including management of ourselves." The professor believes that industry, to prosper, will show greater accelerative power, versatility, quickness on its feet. Commenting on Professor Schell's belief, H. A. Hopf, well-known management engineer, has something else to say, which seems to me to fit right into the need

for quick thinking and action, required in this Air Age.

Mr. Hopf points out that "greater speed and flexibility will be essentials of successful management," and that "there must be an eager reaching out for new ideas. Those who indulge in unnecessary delays in putting new and better ideas into operation will suffer." Mr. Hopf further believes that "the best managers will be those who search the universe for the best ideas and who put those ideas promptly into practical use. Closed-mindedness will court failure. *The magic of growth is always in expression.*" His comments fit so well into several new patterns being tried out that it seems to be in order to mention at least one of them.

A five-year-old boy was flown to the United States from Johannesburg, South Africa, for treatment in Philadelphia for a serious throat ailment, which threatened his life. The lad, Weymouth G. Pedlar, was accompanied by his 24-year-old mother on the air journey of 9,635 miles. At present the child can breathe only through a metal tube inserted into his windpipe. His hometown neighbors, in King William's Town, Port Elizabeth, made the trip possible by contributing \$4,000 to cover the cost of the trip to the United States.



SEASONED AIR TRAVELERS—Suffering from a closed larynx, five-year-old Weymouth Pedlar was brought to the United States by his mother, Mrs. Anna J. Pedlar, a distance of 9,635 miles by air. A Pan American Clipper carried them on the last lap to these shores.

The flight started August 10 from Johannesburg on an American Transport Command plane, bringing the boy and his mother to Robert's Field, Liberia. From there they transferred to a Pan American Clipper which took them to Lisbon. Leaving Lisbon at 5:30 a.m. on Thursday, August 16, they arrived at LaGuardia Field, New York, at 1:10 p.m. on Friday, August 17. They were quickly cleared by Customs, and 90 minutes later mother and son landed at Northeast Airport in Philadelphia. There, the youngster will be treated by Dr. Chevalier Jackson of the Temple University Bronchoscopic Clinic. Maybe life and good health will be restored to this little boy from South Africa.

More All-Cargo Flights

Two additional all-cargo flights weekly between Miami and the Latin American air gateway cities of La Guaira, Venezuela, and Barranquilla, Colombia, are now being operated by Pan American World Airways and will greatly facilitate the heavy movement of Clipper express out of Miami to these points, according to V. E. Chenea, Vice President and General Traffic Manager.

NEW SERVICE — Pilot-owner C. B. Dickinson of Dickinson Airways, new feeder airline operating between New York City and Binghamton, congratulated by William M. Muir, Link Aviation Devices traffic manager. Standing beside Dickinson are two more Link officials: Vice President Philip S. Hopkins and Purchasing Manager Edward H. Allen (holding brief case). A flight by these officials marked the opening of Dickinson Airways.



Resolution Hits One Phase Of Federal Airport Bills

The New York State Joint Legislative Committee on Interstate Cooperation has passed a resolution sent to all Congressmen representing the State which "urges the Congress of the United States, in the development of a national airport system, to follow the long-established and effectively operated pattern of channeling aid to local communities exclusively through respective state governments."

It pointed out that "Congress, when it convenes, will consider bills intended to establish a system of airports and to provide Federal aid for their construction," thus establishing a "new method of Federal-state-local cooperation by providing for direct Federal grants to political subdivisions of the states." The proposed Governmental system, the resolution stated, "would duplicate existing state organizations and agencies in the field of aviation, would require enormous expansion in the Federal agency, and the employment of thousands of additional Federal officials and agen-

cies, would be both ineffective and uneconomical in operation, and would establish an entirely new system of intergovernmental operation."

Winster Predicts Competition

There will be sharp foreign competition between the United States and British airlines, according to a statement made by Lord Winster, Britain's Minister of Civil Aviation, during a press conference in Baltimore.

Lord Winster added, however, that it will be "to the advantage of civil aviation in general," and that so far as the British were concerned they will not complain.

Declaring that he was not in a position to answer questions on the policy of the new Labor government, Lord Winster went on to say that it was not the policy of Britain to create a monopoly in air transport. He pointed to the fact that Prime Minister Churchill's government had proposed three competing British companies.

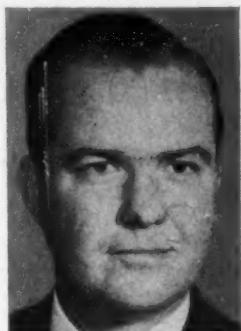
"I certainly think an element of competition is necessary to civil aviation," he said.

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JOSEPH D. BOYLAN, appointed general air freight agent for American Airlines. In his new capacity Mr. Boylan will have



headquarters in American's New York General Offices and will act as an assistant to James A. Wooten, AA cargo traffic manager, in the development of national Airfreight accounts. Thoroughly experienced in the motor transport business, Boylan, who is a native of New York, attended

Lee University. In 1933 he took a position as salesman for Universal Carloading and Distributing Company. Following this, he was associated with several prominent motor express organizations in Chicago, Kansas City, and St. Louis. Before coming with AA, Boylan was employed in a civilian status by the United States Army Transport Corps in New York City.

He joined American in September, 1944, when he was appointed Eastern regional cargo traffic manager, which position he now leaves.

R. O. BULLWINKEL, assistant to the president of Northwest Airlines, elected to the newly created position of vice president-traffic.



Bullwinkel has been associated with NWA for more than two-and-a-half years, and under his direction the company has streamlined its traffic department. In the transportation business for more than 25 years, he joined the executive staff of NWA as assistant to the president, Western Region, in February, 1943. He was made

head of the traffic department a year ago when

it was reorganized and expanded in preparation for the start of service into Detroit and New York on the airline's new transcontinental line.

In the past he served with the Milwaukee Railroad, Alaska Steamship Company, and the American Mail and Dallas Steamship Lines. Bullwinkel's association with commercial aviation began in 1936 when he was named traffic manager for the Alaska Division of Pan American Airways. He left this position to join NWA.

CAPTAIN HENRY WAKELING FISCHER, former Acting Commanding Officer of the Port of Plymouth, England, attached to the 329th



Harbor Craft Company, Army Transportation Corps, who has joined *Air Transportation, American Import and Export Bulletin*, and *Custom House Guide*, as advertising manager.

Sent overseas for the purpose of delivery of craft necessary to the invasion of France.

Fischer spent 11 months in a foreign service. More than half of this time was in the European Theatre of Operations. He was injured during a German raid on Plymouth.

Possessing a wide background in aviation affairs, Fischer was for many years active in aviation promotional work. He ran the early air shows at Curtiss Field and also promoted the first Aviation Day. Fischer was a member of the special committee of the Brooklyn Chamber of Commerce Civic Council which recommended New York City's first airport, Floyd Bennett Field. From 1929 to 1933 he served as president of the National Aviation Reserve Association. He donated the first airplane engine to be used for study in New York's school system.

Fischer was formerly employed by the National City Bank of New York where he spent 18 years. He is married to the former Muriel Buttrick, whose great-great uncle, Major John Buttrick, fired the first shot of the Revolutionary War. The Fischers have one son.

CARLENE ROBERTS, elected to the assistant vice presidency of American Airlines.

At 31, Miss Roberts is the youngest woman ever to be elected to her present position with an airline. She will continue to make her headquarters in Washington, D. C., where she has represented the company for the past three years. Miss Roberts joined AA as secretary to an officer of the company in 1938. A year later she organized the movement of personnel and general headquarters from Chicago to New York when the airline decided to make its main headquarters at La Guardia Field. Her genius for organization was quickly established and Miss Roberts was appointed assistant to the vice president in January, 1942.



JACK ANDERSON, formerly with Douglas Aircraft, who has been retained by the Curtiss-Wright Corporation as public relations representative on the West Coast.

At 35, a veteran of more than 16 years with Douglas, Mr. Anderson resigned from that company as assistant director of industrial and public relations, to take on this assignment for Curtiss-Wright. In that capacity he supervised the organization of the public relations department from its inception, through wartime expansion, and into the present division which embodies industrial relations. Prior to seven years in this work he served in Douglas' engineering division. A native of Southern California, Mr. Anderson attended high school in Santa Monica and followed an engineering course at the University of California at Los Angeles until he entered the aviation industry in 1929.



H. R. Bolander, Jr.



A. J. Earling

ALBERT J. EARLING and **H. R. BOLANDER, JR.**, named to the respective posts of vice president-traffic and vice president-administrative of Chicago and Southern Air Lines.

Mr. Earling joined the organization early this year as assistant to President Carleton Putnam. He is a native of Chicago, and his family has been closely identified with transportation enterprises. His grandfather, the late A. J. Earling, was president of the Chicago, Milwaukee and St. Paul Railroads; he is also related to the late George R. Peck, former president of the American Bar Association and general counsel for railroads.

Mr. Bolander's office is a newly created one. It was set up to expedite and coordinate the policies and vocations stemming from the office of the president. Early this year Mr. Bolander was made vice president-general counsel of the airline.

MAJOR RICHARD SCHALL, Air Corps, back at work with the Civil Aeronautics Administration, where he is chief of the Foreign Operations Division.

Major Schall's former work with the CAA and his various assignments while on active duty all have been in the field of scheduled air transportation. He joined the CAA in 1938 as an aeronautical inspector in the First Region, and later became assistant to the director of Safety Regulation. Later, as an air carrier inspector, he worked in the First Region, and on Pearl Harbor day was designated as the CAA representative with the Air Forces Ferrying Command in the acquisition of civilian planes and pilots for emergency military duty and in developing a system of airline priorities.

He went on active duty in June, 1942, and began to use the experience he had gained in civilian flying in the "occupation" of the airlines by the Army, and in setting up the system of military uses for airline travel.



D. R. Magarrell



H. E. Nourse

H. E. NOURSE, formerly assistant to the president of United Air Lines and head of the company's economic and market research department, elected vice president in charge of economic controls;

D. R. MAGARRELL, formerly director of passenger service, now vice president in charge of passenger service, and **R. F. AHRENS**, formerly director of personnel, elevated to vice president in charge of personnel.



R. F. Ahrens

President W. A. Patterson said the promotions were in preparation for United's post-war expansion, and in line with company's policy of increasing its executive staff to handle the greater responsibilities of the organization.

Nourse, a graduate of Washington State College, joined a predecessor company of UAL in 1927, and became assistant to the president in 1939.

Magarrell, who studied at Northwestern and Columbia Universities, joined the airline in 1936 and became director of passenger service in 1938.

Ahrens is a graduate of the University of Washington, joining United in 1928 and becoming its director of personnel in 1942.

CHARLES H. AUGSPURGER, appointed director of public relations for the Airplane Division of the Curtiss-Wright Corporation.

Augspurger joined the division's public and internal relations department two years ago after leaving the sales department of the National Gypsum Company in February, 1943, he was named manager of public and internal relations for the company's Buffalo plant. He is a native of Buffalo and a graduate of the Wharton School of Finance, University of Pennsylvania.



LIEUTENANT COLONEL JOHN H. CLEMSON, a veteran of World War I, who organized and directed the military pri-

orities system on United States flag carrier airlines, domestic and foreign, during World War II, released by the Army to become general manager of Transcontinental and Western Air's Midwest region.

A veteran in transportation, Colonel Clemson was general traffic manager of TWA when granted leave of absence to enter military service in June, 1942. He was a captain in the reserve corps and went on active duty in that rank. He rose to a lieutenant colonelcy as chief, domestic division, priorities and traffic of the ATC.

Colonel Clemson's entire business career has been in transportation. He was with the Pennsylvania Railroad and the Pullman Company before joining Transcontinental Air Transport, a TWA predecessor company, in 1929. He was in charge of the Clovis, New Mexico, terminal for TAT when the first plane-and-train transcontinental passenger service was inaugurated. He later served at Los Angeles and Columbus, Ohio, was district manager for TWA at Philadelphia and New York, regional manager at Pittsburgh, and then general traffic manager of the system.



WILLIAM V. McTAGGERT, named cargo representative at the New York office of TACA Airways Agency, which represents in the United States the TACA airlines of Central and South America.



Mr. McTaggart, a native of Philadelphia, received his education in that city and took special courses in traffic work at Villanova College. He was later appointed an instructor in traffic control air transportation at Temple University where he stayed two years. He was with the Railway Express Agency for the last 18 years, serving in Philadelphia, Harrisburg, St. Louis, and Atlantic City.

JOSEPH E. CASEY, who succeeds Alexander B. Royce as chairman of the Airlines Committee for United States Air Policy.



Mr. Casey, who served as Congressman for Massachusetts from 1934 to 1942, is a member of the United States Supreme Court Bar as well as the Bar Association of the District of Columbia. He is also a member of the Massachusetts Bar and associated with the legal firm of Hale and Door in Boston. Mr. Royce will continue the private practice of law as a member of the firm of Chadbourne, Wallace, Parke and Whiteside* in New York City.

BRANIFF:

Captain Dan Hughes, appointed assistant chief pilot . . . Donald H. Snell, former AAF captain, who has recently accepted a position as traffic representative in the Air Mail and Air Cargo Department.

CAA:

Colonel Reeder G. Nichols, formerly chief of the Air Carrier Radio Section, who has been decorated by the Army with the Legion of Merit for his work in installing radio facilities in the Pacific . . . Leo F. Hummer, Jr., Conrad H. Zimmerman, and Lester H. Saucke, technical advisors, recently awarded the Army's Certificate of Commendation for their work in the construction and operation of airway traffic control centers in North Africa.

CAB:

Dr. Irston R. Barnes, named economic advisor.

CONTINENTAL:

George R. Hill, now director of market and sales research, a new post created in Continental's Traffic Department.

CURTISS-WRIGHT:

G. J. Brandewiede, who has been appointed director of sales of the Airplane Division.

DELTA:

D. Franklin Kell, formerly associated with the CAA as public counsel, who is now assisting the airline in cases affecting new routes for which it has applied.

EASTERN:

Frank E. Loomis, who has been named city manager for the airline in Charleston . . . Leo J. Cafferty, appointed travel agency representative for Chicago and surrounding territory . . . Colonel W. S. Dawson, AAF, who has rejoined the airline as a check pilot based at Miami.

EVANS PRODUCTS:

Robert A. Terry, now sales manager of the company's Sky Products Division.

FAIRCHILD:

Ernest G. Whitney, former assistant executive engineer of the Cleveland laboratory of the National Advisory Committee for Aeronautics, now assistant chief engineer of the Ranger Aircraft Engines Division of the company.

MID-CONTINENT:

Ashton K. Durrett and John Kissinger, appointed traffic representatives in Shreveport and Minneapolis, respectively.

NATIONAL:

John M. Loudon, former city traffic representative in New York City, who has been promoted to city traffic manager.

NORTHWEST:

Linus C. Glotzbach, personnel director of the airline, who has been added to the company's general administrative staff as executive assistant to the president . . . William J. Elden, transferred to the company's headquarters in St. Paul, to assist E. I. Whyatt, vice president-treasurer, in establishment and operation of budget procedures . . . H. L. Cummings, district traffic manager at Billings, Montana, who has been named by Governor Sam Ford a member of Montana's newly created Aeronautics Commission . . . Frank O'Brien, appointed traffic representative in the Detroit area.

PENNSYLVANIA-CENTRAL:

C. Bedell Monro, president of the airline, who has been named a member of the Industry Consulting Committee of the National Advisory Committee for Aeronautics . . . Fred W. Parker, former war correspondent, who has joined the public relations staff as assistant to Ray Bell . . . Dr. L. G. Lederer, medical director, appointed director of personnel administration . . . Thomas A. Kerr, Detroit district traffic manager, who has been promoted to regional traffic manager . . . C. J. Miller, promoted to Southern divisional manager . . . Four traffic representatives, appointed at key terminals: Thomas R. Butzberger and Lawrence Wharton.

Bickley, both assigned to Cleveland; and Oliver F. Stern and Stanley Fisher, assigned respectively to Chicago and Norfolk . . . Miss Jane White, promoted to the post of assistant chief hostess . . . Seven Training Supervisors, appointed to the direct procurement and training of new employees at key terminals: Myron H. Walker, assigned to Washington; Violet M. Hamilton, New York; Guess Thompson, Norfolk; Marie McDonnell, Pittsburgh; Dorothy L. Thiessa, Cleveland; Sue Brandon, and Lucyle Kersell, Chicago.

TRANS-CANADA:

Paul Davoud, formerly a group captain in the RCAF, and prominent in Northern flying, who has been appointed operations assistant to the vice president of the airline.

TWA:

J. A. Thomas, formerly transportation manager of the airline's midwest region, now executive assistant to the transportation vice president, John A. Collings.

UNITED AIR LINES:

Colonel Richard E. Pfennig, on military leave as vice president—eastern operations, who has been awarded the Bronze Star for his "foresight and judicious planning" of air transportation details for the late President Roosevelt and other high officials to the now-historic three-power Crimea conference early this year . . . Allan F. Bonnalie, an aviation expert who wears the wings of the United States Navy, the Army Air Forces and the Royal Air Force, who has returned to the airline as assistant to J. A. Herlihy, vice president—operations, at Chicago . . . Major John A. (Jack) Rose, who will return to Oakland as district traffic

manager October 1, after completing service in his second war . . . S. O. Halberg, acting district traffic manager at Oakland, returns to San Francisco as assistant district traffic manager there . . . Ray Connors, new publicity representative in New York.

UNITED AIRCRAFT:

Alan G. Day, appointed service manager of the Sikorsky Aircraft Division.

MISCELLANEOUS:

John B. Walker, who has resigned as vice president of Aireon Manufacturing Corporation to head his own firm, John B. Walker and Associates, public relations counsel. Walker has also acquired Control of Relamex, S. A., a public relations firm in Mexico City, and will coordinate its services with those of his New York organization . . . Bowman R. Otto, Otto Aviation Corporation; Oliver L. Parks, Parks Air Transport, Inc.; and Thomas H. Davis, Piedmont Aviation, Inc., elected respectively president, vice president, and secretary-treasurer of the Feeder Airlines Association . . . Irving B. Babcock, president of The Aviation Corporation, elected president of The Crosley Corporation . . . Russell H. Whempner, appointed sales manager of the Aeronautical Division, Minneapolis-Honeywell Regulator Company . . . Sydney Nesbitt, named president and general manager of Atlantic Aviation Corporation.

Major Levi H. Dice, formerly of Eastern Air Lines, has informed *Air Transportation* that it was Major E. E. Dryer, ex-American Airlines, who smashed the Washington-Moscow flight record. Dice made the Washington-Paris round trip in 45 hours, 25 minutes elapsed time.

TCA Installs Radar At Stevenson Field

An experimental radar station has been installed by Trans-Canada Air Lines at Stevenson Field, Winnipeg, in order to apply one of the war's topmost secrets to increasing the safety of commercial air travel.

The installation was made possible through the loan of equipment by the Royal Canadian Air Force. It is not of a permanent nature, S. S. Stevens, TCA's superintendent of communications and electronics, stated, and is being designed for experimental use by the company's communications department.

It was pointed out that the "magic eye" will be able to detect the presence of all approaching aircraft whose actual positions as far away as 80 miles will appear on a screen in good or bad weather, day or night. This will be of considerable aid to airline pilots who might not know their exact positions.

Air Shipping McKeon's Topic

"Shipping by air is no longer 'just around the corner,' but just over to the nearest airport," Gilbert F. McKeon, vice president of the Manhattan Storage and Warehouse Company, said in a radio interview on the program, *Destination New York*, over WNYC.

McKeon stated that his company shipped by air "whenever our clients require it," and pointed out that "there are thousands of remote towns and cities, under 10,000 population, inaccessible to ordinary means of transportation. He predicted that air shipping costs would equal normal transportation costs in two years.

Eastern Transports Air Express Edition of Time

Over 22,000 copies of *Time's Air Express Edition*, printed in the United States, are placed aboard a regularly scheduled Eastern Air Lines *Cargoliner* at six p. m. every Tuesday evening at La Guardia Field, New York, flown to Miami, and distributed to some new dealers in Latin America the next morning.

Time goes on sale in the Canal Zone on Wednesday afternoon; in Port of Spain, Trinidad, and Caracas, Venezuela, on Thursday morning; in Lima, Peru, on Friday morning, and in Santiago, Chile, on Saturday. The *Air Express Edition* varies slightly from the edition which is sold in the United States in that it is printed on a much lighter weight paper and the copies are all black and white with no color. In addition, domestic copies of the magazine usually consist of over 100 pages, whereas the Latin American editions only have about 60 pages.

Obituary

AIR TRANSPORTATION announces with sincere regret the passing of Edward S. Evans, president of Evans Products Company, one of America's outstanding leaders in the field of air cargo as well as in other phases of aviation.



(Reg. U. S. Pat. Off.)

AIR EXPRESS, REA

Topping all previous records for similar periods, Air Express rounded the half-year mark with a 28.6 percent gain over the volume of business handled during the same period 1944. All air express shipments handled for the domestic airlines are covered by this figure and total 1,060,729, as compared with 824,875 for the first six months of last year. Gross revenue for the same period showed an increase of 52.6 percent over last year.

AMERICAN

All records for passengers-carried out of LaGuardia Field by any airline since Pearl Harbor were shattered in July by American Airlines. Averaging more than 1,000 passengers a day, AA carried 30,202 people, only a few thousand less than the highest monthly total ever carried by any company since LaGuardia Field was opened.

During the first six months of the year, American carried 138,258 passengers from the New York airport, an increase of 63 percent over the same period last year. The airline practically doubled its figures for passengers flown to New England with a 99 percent increase. Traffic in passengers carried to Chicago and intermediate points showed a 49 percent increase, and there was a 33 percent increase in passengers on the line's southern transcontinental route.

As compared to the first six months of last year, air express poundage increased 15 percent and air mail poundage 50 percent. There were 921,600 pounds of air freight carried by the airline the first six months of this year.

COLONIAL

Record traffic gains were shown by Colonial Airlines in the month of July. During this month the line carried 10,104 passengers between New York and Montreal as compared with 5,196 passengers in the same month of 1944. This represents an increase of 94.5 percent, one of the largest increases registered by any transportation company in America. In this period, 34,468 pounds of mail were carried and better than 23,441 pounds of express.

CONTINENTAL

All previous records for passenger traffic over this airline were broken during July when revenue passenger-miles flown by the company passed the five million mark for the first time.

In the 31-day period Continental flew 5,516,323 passenger-miles. This compares with 4,966,497 miles for the month of June, 1945, and with 2,229,486 revenue passenger-miles for June of 1944. In addition to releasing the July figures for revenue passenger-miles flown by Continental, total figures for passenger traffic over the airline for the first six months of the year were also announced. Between January 1, 1945, and June 30, 1945, Continental flew 19,876,019 revenue passenger-miles. This compares with 9,237,915 passenger-miles the first six months of 1944, an increase of 115 percent.

DELTA

Delta Air Lines reported an operating profit of \$1,506,195, or a net income of \$538,693 after taxes and other deductions, for the fiscal year ended June 30, 1945. C. E. Woolman, vice president and general manager, said the company handled the greatest total of business in any one year since the company flew its first passengers in 1929.

Operating revenues for the fiscal year totaled \$5,156,282, compared with \$3,233,326 in the previous fiscal year. While the operating profit of the past fiscal year totaled \$1,506,195 as compared with \$837,789 in the previous 12 months, the net income was \$538,693 for the fiscal year ending June 30, 1945, against \$428,606 for the fiscal year ending June 30, 1944.

During the past fiscal year Delta completed 95.6 percent of its scheduled operations, and had an average of 18.2 passengers per mile flown, or a load factor of 87.6 percent at all times during the 12 months. Delta led the entire airline industry in utilization of equipment, flying each plane an average of 14.02 hours or 1,903 miles per day, 20 percent above the industry average, according to a CAB analysis based on schedules in effect April 1, 1945.

Delta operated 84,876,923 revenue passenger-miles during the fiscal year compared with 51,843,940 revenue passenger miles in the preceding 12 months. Revenue plane-miles totaled 4,675,532 for the latest fiscal year, in contrast to 2,771,832 the year before.

MARTIN

The Glenn L. Martin Company and subsidiaries reported net sales for the six months ended June 30, 1945, of \$195,867,196, consolidated net income of \$4,747,593 before renegotiation, but after reserves for taxes and contingencies. Unfilled orders increased during the period from \$516,282,380 to \$605,908,442.

At June 30, 1945, the market appraised the company at \$32,050,073 (28½ per share) compared with a market evaluation of \$52,263,903, when the stock was selling at the peak of 47¼ in 1940. While the market appraisal of the company was declining \$20,213,830, the company was increasing its working capital by \$8,715,630, from \$11,851,696 at June 30, 1940, to \$20,567,326, at June 30, 1945, and in addition, set aside during the five years, \$29,500,000 in funded reserves for contingencies, including renegotiation of war contracts and post-war expenses and adjustments. Also, during the five years, consolidated earned surplus grew from \$9,592,122 to \$20,316,250, and book value from \$20 to \$30 per share, exclusive of reserves.

MID-CONTINENT

MCA's operating revenues for the month of June were \$249,486—again an all time high in the history of the company and was an increase of 32 percent as compared with June of 1944. Revenue passengers carried totaled 12,046, as compared with 7,298 in June, 1944, an increase of 65 percent. Net profit of the company after provisions for income taxes was \$14,515.43 as compared with a net profit of \$28,939 for the same month of 1944.

NATIONAL

NAL smashed three operating records during July, flying more revenue passenger-miles, more revenue miles, and carrying more revenue passengers.

Revenue miles flown totaled 589,036 as compared with 265,517 for the same month last year, an increase of 121.84 percent. National flew 7,129,291 revenue passenger-miles in July, 1945, as compared with 3,252,062 in July, 1944, an increase of 119.22 percent. There was an increase of 44.99 percent in revenue passengers carried in July, 1945, over July, 1944.

NORTHWEST

Northwest Airlines carried more passengers and hauled more mail during July than in any other month since the company was organized 19 years ago.

A total of 32,136 revenue passengers rode the airline's planes on flights between New York city and the Pacific Northwest. This topped the previous high of 28,783, recorded in June, by 3,353. Pound-miles of mail hauled during July totaled 519,506,822, which was 7,510,858 greater than the previous record of 511,995,964 pound-miles, established in October, 1944. The mail weighed 602,343 pounds. Express hauled during July amounted to 283,717 pounds and 187,408,141 pound miles, as compared with June's record of 294,760 pounds and 189,045,916 pound miles.

PAN AMERICAN

Clippers flew a total of 178 million passenger-miles during the first half of 1945. Reporting only the traffic activity of the three United States-based operating divisions of PAA, not including Latin American affiliate companies or the China National Aviation Corporation, in which Pan American is in partnership with the Chinese Government, the half-yearly figures record 9,357,182 pounds of Clipper express and 8,122,531 pounds of air mail carried. The planes carried 170,317 passengers during the first six months of 1945, an increase of 7,000 passengers over the total carried during the same period one year ago.

REPUBLIC

Estimated net earnings of Republic Aviation Corporation for the six months ended June 30, 1945, before renegotiation and prior to provision for Federal income and excess profits taxes (net of postwar refund), amounted to \$5,600,000, Alfred Marche, president, reported. After provision for taxes, net amounted to \$1,550,000, equivalent to \$1.57 per share on 982,406 shares of common stock outstanding. Out of net, the report stated, \$436,000 has been appropriated to the corporation's reserve for postwar readjustments and contingencies.

Sales for the period were reported at approximately \$148,000,000, practically all of which were under cost-plus-a-fixed-fee contracts with the United States Government. Unfilled orders as of June 30, 1945, almost wholly under cost-plus-a-fixed-fee contracts, amounted to approximately \$290,000,000, as adjusted downward to reflect estimated cost to complete such contracts. Backlog of unfilled orders as of January 1, 1945, amounted to approximately \$405,000,000. New orders received during the six months ended June 30, net of terminations and cutbacks amounted to \$33,000,000.

TRANS-CANADA

TCA flew a total of 9,476,937 revenue passenger-miles during June, the heaviest month in the company's history. This was an increase of 7.04 percent over May, which had likewise been a record month.

TWA

Record net earnings of \$1,699,163 or \$1.73 a share, after taxes and certain non-recurring charges, were reported for the first half of 1945. Earnings in the first six months of 1944 were \$666,253, or 68 cents a share. According to President Jack Frye, the non-recurring charges resulted from the sale of certain airport properties and reduced earnings by \$281,901.

The 1945 earnings reflect the accrual of mail revenues at the rate of 60 cents a ton-mile, and no provision has been made for the show cause order of the Civil Aeronautics Board, amended August 13, to reduce the air mail rate of 45 cents a ton-mile. If the air mail rate was cut to 45 cents and made retroactive to January 1, 1945, TWA's earnings for the first half of this year, after taxes and non-recurring charges, would have been \$1,033,030, or \$1.05 per share. Total operating revenues for the 1945 period increased 64.1 percent to \$17,218,608, as compared with \$10,490,785 in the corresponding period of a year ago.

UNITED

New all-time records were established by the airline for air passenger, mail and express transportation over its system in the second quarter and first half of 1945.

Revenue passenger miles for the second quarter totaled 146,666,033 as against 110,752,894 a year ago; mail ton-miles, 5,566,381 as against 4,384,731; express ton-miles, 1,422,222 as compared with 935,698, and revenue plane miles, 9,530,599 as against 7,012,961. Proportionate gains were shown for the half year.

United's net income for the second quarter was \$1,898,497, equivalent to \$1.18 per share of common stock and \$18.22 per share of preferred. In the corresponding period of 1944, net income was \$1,814,754. For the six months ended June 30, UAL's net income was \$3,541,785, equivalent to \$2.20 per share of common stock and \$33.98 per share of preferred. This figure compared with \$2,924,837 for the first half of 1944.

President W. A. Patterson told stockholders that net earnings for the quarter would be reduced to \$1,033,576, equivalent to 61 cents per share of common stock and \$9.92 per share of preferred, and for the half year to \$1,799,791, equivalent to \$1.04 per share of common and \$17.27 per share of preferred, in the event the company's mail rate is lowered, as of January 1, 1945, from 60 cents per ton-mile to 45 cents, the figure named in a "show cause" order of the CAB.

WESTERN

More passengers flew more miles during the month of June than during any other month in the 20-year history of Western Air Lines.

During June, WAL flew 8,384,479 revenue passenger-miles—a 3.25 percent increase over May of this year, and a 66.61 percent rise above June, 1944. Express carried by Western during June amounted to 130,205 pounds, an increase of 78.21 percent over the same month in 1944. Express pound-miles flown in June, 1945, totaled 61,695,322, or 76.28 percent more than were flown during June of last year.

Attention Foreign Traders

An important source book on Latin America—*The Wealth of the Other Americas*—published by Pan American World Airways, is yours for the asking merely by writing to *Air Transportation*. Please limit your requests. Due to the continuing paper shortage, orders must be kept down to an absolute minimum. Address your requests to: Special Service Department, Air Transportation, 10 Bridge Street, New York 4, N. Y.

AIR TRANSPORTATION Books

AIR POWER FOR PEACE—BY EUGENE E. WILSON (*McGraw-Hill, 184 pages, \$2*). An appraisal of the value of air power and its impact upon military and economic security. Air power is called the sum of properly balanced air force, air commerce, and aircraft industry. Recommended reading.

AIRPLANE CRASH FIRE FIGHTING MANUAL (*National Fire Protection Association International, 96 pages, \$1*). The title speaks for itself. Plenty of illustrations and lucidly written. A handy book to have around.

AMERICAN AVIATION DIRECTORY: SPRING-SUMMER, 1945—EDITED BY WAYNE PARRISH (*American Aviation Associates, 668 pages, \$5 per copy; \$7.50 annual subscriptions*). The newest issue of a directory which is a standard in the field of aviation. Easy-to-find sections plus several helpful indexes.

AUTUMN LEAVES—BY P. W. LITCHFIELD (*Corday & Gross, 125 pages*). "Reflections of an industrial lieutenant," with a foreword by Dr. Jerome C. Hunsaker of the Massachusetts Institute of Technology. Striking illustrations by Rockwell Kent. The author presents his personal philosophy in simple, straightforward language. The importance of time is stressed: "One realizes its full importance only when there is little of it left. Every man's greatest capital asset is his unexpired years of productive life."

CHINA AFTER SEVEN YEARS OF WAR—EDITED BY HOLLINGTON K. TONG (*Macmillan, 246 pages, \$2*). Prepared by a group of young Chinese together with two American associates: Hawthorne Cheng, Samuel M. Chao, Chu Fu-Sung, Frank Tao, Charles C. H. Wan, Floyd Taylor, and Jean Lyon. A book about the Chinese people as they look and think after seven years of terrible war. It should be read. Some photographic illustrations.

HIGH JOURNEY—BY CARLETON PUTNAM (*Scribner's Sons, 308 pages, \$2.75*). The president of Chicago & Southern Air Lines tells his story. Not just another biography. A different picture of the American West and its link to modern air transportation. This is a story not to be forgotten too soon.

JUSTICE IN TRANSPORTATION—BY ARNE C. WIPRUD (*Ziff-Davis 196 pages, \$2.50*). The

author's "case against the monopolistic control of America's transportation system." This book is called "of vital importance to every individual shipper, industrial firm, and organization with an interest in lower transportation costs." The introduction is by Thurman Arnold. Plenty of information.

SCIENCE OF MEASUREMENT (*Continental Machines*). A series of eight booklets comprising a study course in precision measurement. Hundreds of photographs, tables, formulas. The lessons are spaced to cover an eight-month period.

THE SUPERFORTRESS IS BORN—BY THOMAS COLLISON (*Duell, Sloan & Pearce, 218 pages, \$3*). The stirring story of the Boeing B-29—the plane that is leveling Japan. A moving history of the famous bomber, from birth pangs, through despair and tragedies, to final triumph. A number of fine photographs illustrate the book. You'll like it.

WOMEN IN AVIATION—BY BETTY PECKHAM (*Nelson & Sons, 164 pages, \$2.50*). What is the distaff side doing in the field of aviation? Miss Peckham tells the story with zest. The Wasps, Wacs, Waves, Spars, Marines, Flying Nurses, Civil Air Patrol girls, women on the assembly and production lines—they're all in the book. Thirty-two photographs illustrate the author's record.

* * * * *

American Aviation Associates, American Building, Washington, D. C.; Continental Machines, 1301 Washington Avenue S., Minneapolis; Corday & Gross, Cleveland; Duell, Sloan & Pearce, 270 Madison Avenue, New York; Macmillan, 60 Fifth Avenue, New York; McGraw-Hill, 330 West 42nd Street, New York; National Fire Protection Association International, 60 Batterymarch Street, Boston; Thomas Nelson & Sons, 385 Madison Avenue, New York; Scribner's Sons, 597 Fifth Avenue, New York; Ziff-Davis, 540 North Michigan Avenue, Chicago.

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AA—24, 54 up left.
ATSC—46 up.
Hughes—25, 26
Jaqua—20
Link—53
MATSC—37
Martin—35
PAA—7, 8, 52
RAF—28, 29
Talbott—46 lwr.
United—49, 56 left.
Universal—14 up, 17 up.
Westinghouse—45



[REG. U. S. PAT. OFF.]

International Express and Mail Tables

Air express rates quoted are from U. S. International airport of departure (U. S. Gateway) and are based on the prevailing tariffs, airport to airport (*see note*); also see note for Airfreight rates. Shippers are warned, however, that these are subject to change.

GATEWAY SYMBOLS

Bb—Bangor, Me.	Jg—Burlington, Vt.
Bro—Brownsville, Tex.	Lgs—Los Angeles
Bw—Boston, Mass.	Lo—Laredo
Cg—Chicago	Mia—Miami
Cub—Cut Bank, Mont.	No—New Orleans
Di—Dallas	Nyk—New York
Eo—El Paso	Sa—San Antonio
Fv—Fort Worth	Sq—San Diego
Gf—Grand Forks, N. D.	Ste—Seattle

International Air Express is subject to two charges: one a charge per pound weight or measurements at carrier's option (200 cu. in. to the pound of weight), the other a charge per \$100 of valuation. The two must be added on any shipment to determine the cost. Neither includes insurance, which may be purchased by the shipper from the carrier or otherwise.

Priorities: The air carriers warn all shippers that express traffic, both U. S. Government and commercial, is so heavy that no guarantee can be given that any shipment will depart on any particular plane unless it enjoys U. S. priority. Otherwise it will de-

part, in relation to other shipments, in the order received at the international airport used, subject to wartime limitations. Pick-up service without extra charge is available for all international air express, except shipments routed through American Export Airlines. For shipments forwarded via Pan American Airways, a "Shipper's Letter of Instructions" is prepared and accompanies shipment to local REA office, where the PAA Airwaybill is prepared. (On cargoes to be shipped via American Export Airlines, Inc., shippers should contact "Shipper's Service," Room 922, 25 Broadway, New York. HANOVER 2-9144.)

International air carriers whose schedules and rates are included here are indicated by the letter following the symbol for the airport

AIRLINE SYMBOLS

A—American Air Lines.
B—Braniff Airways
C—Colonial Air Lines.
E—American Export Airlines.
EA—Expreso Aero Inter-Americano
K—KLM-Royal Dutch Air Lines.
NE—Northeast Airlines.
NW—Northwest Airlines
P—Pan American Airways System and affiliates.
T—Trans-Canada Air Lines.
U—United Air Lines
W—Western Air Lines.

Destination	U. S. Gateway & Airline	RATES (See Note)		Depart	Mail per 1/2 Oz.
		Per Lb.	Per \$100 Value		
NOTE: Per pound rate shown in this column is based on the average package weighing 25 lbs., i.e.: 1 lb. package from New York to Ontario would cost \$1 or 25 lbs. \$4. Ave. age cost per lb.; 16¢. . . . Valuation rates are only due if consignments are shipped with declared value. . . . American Airlines offers International Airfreight Service on shipments over 25 pounds between its gateway points and Monterey and Mexico City. Four classes of rates have been established. For further information, contact American Airlines.					
* British Overseas Airways Corp. carries from Foynes, Ireland to destinations in England, Scotland, and Wales.					
† Canadian air express is carried on the same basis as air express within the U. S.: \$50 declared value free; excess charged at 10 cents per \$100 or fraction thereof.					
LATIN AMERICAN LINES					
Antigua, B. W. I.	Mia P	.64	.32	Sa	.10
"	No P	.96	.32	Su	.10
"	Bro P	1.13	.43	Sa	.10
"	Lgs P	1.73	.43	F	.10
Antilla, Cuba	Mia P	.24	.15	Dly	.08
Antofagasta, Chile	Mia P	1.26	.43	Su, M, W, F, Sa	.20
"	No P	1.34	.43	Su, M, W, F, Sa	.20
"	Bro P	1.34	.43	Su, T, Th, F, Sa	.20
"	Lgs P	1.95	.43	M, W, Th, F, Sa	.20
Aracaju, Brazil	Mia P	1.26	.43	Th, Sa	.20
"	No P	1.71	.43	W, F	.20
"	Bro P	1.71	.43	T, Th	.20
"	Lgs P	2.28	.58	M, W	.20
Arequipa, Peru.	Mia P	1.23	.43	Dly	.15
"	No P	1.26	.43	Dly	.15
"	Bro P	1.26	.43	Dly	.15
"	Lgs P	1.93	.43	Dly	.15
Arica, Chile	Mia P	1.25	.43	Su, M, W, F, Sa	.20
"	No P	1.26	.43	Su, M, W, F, Sa	.20
"	Bro P	1.26	.43	Su, T, Th, F, Sa	.20
"	Lgs P	1.94	.43	M, W, Th, F, Sa	.20
Aruba, N. W. I.	—	via Curaçao		ao, N. W. I.	
"	Mia K	.71	.45	Su, W, F	.10
Asuncion, Paraguay	Mia P	1.73	.43	Su, W	.20
"	No P	1.86	.43	Sa, T	.20
"	Bro P	1.86	.43	F, M	.20
"	Lgs P	2.43	.58	Th, Su	.20
Bahia, Brazil (See Sao Salvador)					
Balboa, Canal Zone	Mia P	.76	.32	Dly	.10
"	No P	.90	.32	Dly	.10
"	Bro P	.90	.32	Dly	.10
"	Lgs P	1.45	.43	Dly	.10
Baracoa, Cuba	Mia P	.28	.17	Dly	.08
Barcelona, Venezuela . . .	Mia P	.85	.32	Dly	.15
"	No P	1.13	.43	Dly	.15
"	Bro P	1.17	.43	Dly	.15
"	Lgs P	1.78	.43	Dly	.15
Barranquilla, Colombia . .	Mia K	.85	.50	W, F	.20
via Kingston	Bro P	.61	.32	Dly	.20
via Balboa	Mia P	1.03	.32	Dly	.20
"	No P	1.03	.32	Dly	.20
"	Lgs P	1.59	.43	Dly	.20

INTERNATIONAL EXPRESS AND MAIL TABLES—Continued

Destination	U. S. Gateway & Airline	RATES (See Note)		Depart	Mail per 1/2 Oz.	Destination	U. S. Gateway & Airline	RATES (See Note)		Depart	Mail per 1/2 Oz.
		Per Lb.	Per \$100 Value					Per Lb.	Per \$100 Value		
Bauru, Brazil.....	Mia P	1.58	.43	M, Sa	.20	Coro, Venezuela.....	Mia P	.74	.32	Dly	.15
"	No P	1.71	.43	Su, F	.20	"	No P	1.07	.43	Dly	.15
"	Bro P	1.71	.43	Th, Sa	.20	"	Bro P	1.11	.43	Dly	.15
"	Lgs P	2.28	.58	W, F	.20	"	Lgs P	1.69	.43	Dly	.15
Belem, Brazil.....	Mia P	1.13	.43	Dly	.20	Corumba, Brazil.....	Mia P	1.41	.43	M, Sa	.20
"	No P	1.34	.43	Dly	.20	"	No P	1.56	.43	Su, F	.20
"	Bro P	1.34	.43	Dly	.20	"	Bro P	1.56	.43	Th, Sa	.20
"	Lgs P	1.95	.43	Dly	.20	"	Lgs P	2.13	.43	W, F	.20
Bello-Horizonte, Brazil.	Mia P	1.65	.43	Su, W, F	.20	Cristobal, Canal Zone.....	Mia P	.76	.32	Dly	.10
"	No P	2.13	.43	T, Th, Sa	.20	"	No P	.92	.32	Dly	.10
"	Bro P	2.13	.43	M, W, F	.20	"	Bro P	.92	.32	Dly	.10
"	Lgs P	2.69	.58	Su, T, Th	.20	"	Lgs P	1.46	.43	Dly	.10
Bonair, N.W.I.....	P	via Curacao		ao, N.W.I.		Cuenca, Ecuador.....	Mia P	1.06	.32	Su, W, F	.15
Buenos Aires, Argentina.	Mia K	.75	.45	Su, W, F	.10	"	No P	1.15	.43	Su, W, F	.15
"	Mia P	1.56	.43	Dly	.20	"	Bro P	1.15	.43	T, Th, Sa	.15
"	No P	1.70	.43	Dly	.20	"	Lgs P	1.76	.43	M, W, F	.15
"	Bro P	1.70	.43	Dly	.20	Curacao, N.W.I.....	Mia P	.73	.32	Dly	.10
"	Lgs P	2.26	.58	Dly	.20	"	No P	.93	.32	Dly	.10
Cal, Col. via Balboa.....	Mia P	.89	.32	Dly	.25	"	Bro P	1.11	.43	Dly	.10
"	No P	1.03	.32	Dly	.25	"	Lgs P	1.73	.43	Dly	.10
"	Bro P	1.03	.32	Dly	.25	"	Mia K	.73	.43	Su, W, F	.10
"	Lgs P	1.59	.43	Dly	.25	Curitiba, Brazil.....	Mia P	1.60	.43	Su, M, W	.20
Camaguey, Cuba.....	Mia P	.26	.17	Thrice Dly	.08	"	No P	2.00	.43	Su, Sa, T	.20
"	Mia K	.20	.25	Su, W, F	.08	"	Bro P	2.00	.43	F, Sa, M	.20
Campeche, Mexico.....	Mia P	.41	.17	Dly	.08	"	Lgs P	2.58	.58	Th, F, Sa	.20
"	No P	.41	.17	Dly	.08	David, Panama.....	Mia P	.81	.32	Dly	.10
"	Bro P	.51	.32	Dly	.08	"	No P	.85	.32	Dly	.10
"	Lgs P	1.00	.32	Dly	.08	"	Bro P	.85	.32	Dly	.10
Campo Grande, Brazil.....	Mia P	1.48	.43	Mo, W, Sa	.20	"	Lgs P	1.38	.43	Dly	.10
"	No P	1.61	.43	Su, T, F	.20	Esmeraldas, Ecuador.....	Mia P	.99	.32	M	.15
"	Bro P	1.61	.43	M, Th, Sa	.20	"	No P	1.11	.43	M	.15
"	Lgs P	2.18	.43	Su, W, F	.20	"	Bro P	1.11	.43	Su	.15
Canavieiras, Brazil.....	Mia P	1.33	.43	Th, Sa	.20	"	Lgs P	1.71	.43	Sa	.15
"	No P	1.81	.43	W, F	.20	Florianopolis, Brazil.....	Mia P	1.63	.43	Sa	.20
"	Bro P	1.81	.43	T, Th	.20	"	No P	2.11	.43	F	.20
"	Lgs P	2.38	.58	M, W	.20	"	Bro P	2.11	.43	Th	.20
Caracas, Venezuela (See La Guaira)	Mia P	1.36	.43	T, W	.20	"	Lgs P	2.68	.58	W	.20
Caravellas, Brazil.....	No P	1.85	.43	M, T	.20	Fort de France, Martinique.....	Mia P	.71	.32	F, Sa	.10
"	Bro P	1.85	.43	Su, M	.20	"	No P	1.00	.32	Su, F	.10
"	Lgs P	2.41	.58	Su, S	.20	"	Bro P	1.16	.43	Th, Sa	.10
Cayenne, Fr. Guiana.....	Mia P	1.02	.32	Dly	.15	"	Lgs P	1.78	.43	W, F	.10
"	No P	1.26	.43	Dly	.15	Fortaleza, Brazil (Ceara)	Mia P	1.23	.43	M, T, W, Th, Sa	.20
"	Bro P	1.26	.43	Dly	.15	"	No P	1.54	.43	Su, M, T, W, F	.20
"	Lgs P	1.91	.43	Dly	.15	"	Bro P	1.54	.43	Su, M, T, Th, Sa	.20
Cayo Mambi, Cuba.....	Mia P	.26	.17	Dly	.08	"	Lgs P	2.10	.43	Su, M, W, F, Sa	.20
Chetumal, Mexico.....	Mia P	.55	.32	M, W, Sa	.08	Georgetown, British Guiana.....	Mia P	.90	.32	Su, F, Sa	.15
"	No P	.55	.32	M, W, Sa	.08	"	No P	1.24	.43	Th, F, Sa	.15
"	Bro P	.55	.32	Su, T, Th	.08	"	Bro P	1.24	.43	W, Th, F	.15
"	Lgs P	1.04	.32	M, W, Sa	.08	"	Lgs P	1.88	.43	T, W, Th	.15
Chilayo, Peru.....	Mia P	1.11	.43	Dly	.15	Gundalajara, Mexico.....	Bro P	.43	.17	Dly	.08
"	No P	1.19	.43	Dly	.15	"	Lgs P	.59	.32	Dly	.08
"	Bro P	1.19	.43	Dly	.15	Guantanamo, Cuba.....	Mia P	.28	.17	Dly	.08
"	Lgs P	1.81	.43	Dly	.15	Guatemala City, Gua.....	Mia P	.59	.32	Dly	.10
Cienfuegos, Cuba.....	Mia P	.20	.15	Dly	.08	"	No P	.53	.32	Twice Dly	.10
C. del Carmen, Mexico.....	Mia P	.45	.17	Dly	.08	"	Bro P	.53	.32	Dly	.10
"	No P	.45	.17	Dly	.08	"	Lgs P	1.08	.43	Dly	.10
"	Bro P	.47	.32	Dly	.08	Guayaquil, Ecuador.....	Mia P	1.04	.32	Dly	.15
"	Lgs P	.94	.32	Dly	.08	"	No P	1.15	.43	Dly	.15
Ciudad Trujillo, D. R.....	Mia P	.45	.17	Thrice Dly	.10	"	Bro P	1.15	.43	Dly	.15
"	Mia K	.98	.50	Su	.10	"	Lgs P	1.75	.43	Dly	.15
Ciudad Victoria, Tamp.....	Di B	.30	.17	Dly	.08	Havana, Cuba.....	Mia P	.20	.15	Thrice Dly	.08
"	Fv B	.30	.17	Dly	.08	"	MiaEA	.20	.18	Twice Dly	.08
"	Lo B	.16	.15	Dly	.08	Hermosillo, Mexico.....	Lgs P	.24	.15	Dly	.08
"	Sa B	.23	.17	Dly	.08	Iguassu Falls, Brazil.....	Mia P	1.69	.43	W, Sa	.20
Cochabamba, Bolivia.....	Mia P	1.26	.43	M, W, Sa	.20	"	No P	1.91	.43	T, Sa	.20
"	No P	1.35	.43	M, W, Sa	.20	"	Bro P	1.91	.43	M, F	.20
"	Bro P	1.35	.43	Su, T, F	.20	"	Lgs P	2.48	.58	Su, Th	.20
"	Lgs P	1.95	.43	M, Th, Sa	.20	Ixtapet, Mexico.....	Mia P	.76	.32	M, T, W, Th, F, Sa	.08
Concepcion, Bolivia.....	Mia P	1.31	.43	Sa	.20	"	No P	.76	.32	Su, T, W, Th, F, M	.08
"	No P	1.45	.43	Sa	.20	"	Bro P	.41	.17	Su, T, W, Th, F, M	.08
"	Bro P	1.45	.43	F	.20	"	Lgs P	.89	.32	Su, T, W, Th, Sa, M	.08
"	Lgs P	2.03	.43	Th	.20						
Cordoba, Argentina.....	Mia P	1.49	.43	Dly	.20						
"	No P	1.63	.43	Dly	.20						
"	Bro P	1.63	.43	Dly	.20						
"	Lgs P	2.19	.43	Dly	.20						

INTERNATIONAL EXPRESS AND MAIL TABLES—Continued

Destination	U. S. Gateway & Airline	RATES (See Note)		Depart	Mail per 1/2 Oz.		Destination	U. S. Gateway & Airline	RATES (See Note)		Depart	Mail per 1/2 Oz.
		Per Lb.	Per \$100 Value						Per Lb.	Per \$100 Value		
Jono Passon (Cabandello).	Mia P	1.25	43		20		Mexico City, Mex. Cont.	Sa A	33	17	Dly	08
"	No P	1.64	43		20		"	Sa B	33	36	Dly	08
"	Bro P	1.64	43		20		Minatitlan, Mexico.	Mia P	53	32	Dly	08
"	Lgs P	2.20	43		20		"	No P	53	32	Dly	08
Kingston, Jamaica.	Mia P	.39	17	Dly	10		"	Bro P	39	17	Dly	08
"	Mia K	.35	32	W,F	15		"	Lgs P	86	32	Dly	08
La Guaira, Venezuela.	Mia P	.75	32	Dly	15		Monterrey, Mexico.	Fv A	27	17	Dly	08
"	Mia K	.75	45	Su,F	10		"	Fv B	22	17	Dly	08
"	No P	1.08	43	Dly	15		"	Di B	22	17	Dly	08
"	Bro P	1.15	43	Dly	15		"	Eo A	34	17	Dly	08
"	Lgs P	1.75	43	Dly	15		"	Lgs A	62	17	Dly	08
La Paz, Bolivia.	Mia P	1.25	43	M,T,W,Th,Sa	20		"	Lo B	13	14	Dly	08
"	No P	1.30	43	M,T,W,Th,Sa	20		"	Sa A	20	15	Dly	08
"	Bro P	1.30	43	Su,M,T,W,F	20		"	Sa B	20	15	Dly	08
"	Lgs P	1.95	43	Su,M,T,Th,Sa	20		Montevideo, Uruguay.	Mia P	1.60	43	M,W,F,Su	20
Lima, Peru.	Mia P	1.18	43	Dly	15		"	No P	1.74	43	Su,T,Th,Sa	20
"	No P	1.24	43	Dly	15		"	Bro P	1.74	43	M,W,S,F	20
"	Bro P	1.24	43	Dly	15		"	Lgs P	2.30	58	Su,T,F,Th	20
"	Lgs P	1.88	43	Dly	15		Mossoro, Brazil.	Mia P	1.24	43		20
Loja, Ecuador.	Mia P	1.08	43	W,Su,F	15		"	No P	1.56	43		20
"	No P	1.17	43	W,Su,F	15		"	Bro P	1.56	43		20
"	Bro P	1.17	43	T,Th,Sa	15		"	Lgs P	2.13	43		20
"	Lgs P	1.78	43	M,W,F	15		Nassau, Bahamas.	Mia P	2.20	15	Dly ex Su	10
Maceio, Brazil.	Mia P	1.26	43	M,T,Th,Sa	20		"	Mia P	1.25	43	M,T,Th,Sa	20
"	No P	1.68	43	Su,M,W,F	20		"	No P	1.61	43	Su,M,W,F	20
"	Bro P	1.68	43	Su,T,Th,Sa	20		"	Bro P	1.61	43	Su,T,Th,Sa	20
"	Lgs P	2.24	43	M,W,F,Sa	20		"	Lgs P	2.18	43	M,W,F,Sa	20
Managua, Nicaragua.	Mia P	.76	32	Dly	10		Nuevo Laredo, Mexico.	Di B	22	17	Dly	08
"	No P	.71	32	Twice Dly	10		"	Fv B	22	17	Dly	08
"	Bro P	.71	32	Dly	10		"	Lo B	15	15	Dly	08
"	Lgs P	1.22	43	Dly	10		"	Lo B	.08	05	Dly	08
Manaos, Brazil.	Mia P	1.24	43	W,Su,Sa	20		Oaxaca, Mexico.	Mia P	.73	32	M,W,Sa	08
"	No P	1.56	43	T,F,Sa	20		"	No P	.73	32	M,W,Sa	08
"	Bro P	1.56	43	M,Th,F	20		"	Bro P	.35	17	Su,T,Th	08
"	Lgs P	2.13	43	Su,W,Th	20		"	Lgs P	.81	32	M,W,Sa	08
Manta, Ecuador.	Mia P	1.03	32	W,F	15		Oruro, Bolivia.	Mia P	1.26	43	M,T,W,Th,Sa	20
"	No P	1.14	43	W,F	15		"	No P	1.33	43	M,T,W,Th,Sa	20
"	Bro P	1.14	43	T,Th	15		"	Bro P	1.33	43	Su,M,T,W,F	20
"	Lgs P	1.74	43	M,W	15		"	Lgs P	1.95	43	Su,M,T,Th,Sa	20
Manzanillo, Cuba.	Mia P	.26	17	Dly	08		Parama City, Panama.	Mia P	.76	32	Dly	10
Macaribo, Venezuela.	Mia P	.69	32	Dly	15		"	No P	.90	32	Dly	10
"	Mia K	.75	45	W,F	15		"	Bro P	.90	32	Dly	10
"	No P	1.06	43	Dly	15		"	Lgs P	1.45	43	Dly	10
"	Bro P	1.08	43	Dly	15		Para, Brazil (See Belem)	Mia P	.97	32	Dly	15
"	Lgs P	1.66	43	Dly	15		Paramaribo, Sur.	Mia K	1.14	58	Su,W	15
Maturin, Venezuela.	Mia P	.89	32	Dly	15		"	No P	1.25	43	Dly	15
"	No P	1.17	43	Dly	15		"	Bro P	1.25	43	Dly	15
"	Bro P	1.19	43	Dly	15		"	Lgs P	1.90	43	Dly	15
"	Lgs P	1.80	43	Dly	15		Parnahyba, Brazil.	Mia P	1.21	43	W	20
Matatlan, Mexico.	Bro P	.57	32	Dly	08		"	No P	1.48	43	T	20
"	Lgs P	.45	17	Dly	08		"	Bro P	1.48	43	M	20
Medellin, Colombia.	Mia P	1.06	32	Dly	25		"	Lgs P	2.04	43	S	20
"	No P	1.10	43	M,T,F,Sa	25		Point a Pitre, Guadeloupe.	Mia P	.66	32	Sa	10
"	Bro P	1.10	43	Su,M,Th,F	25		"	No P	.98	32	Su	10
"	Lgs P	1.65	43	Su,W,Th,Sa	25		"	Bro P	1.14	43	Sa	10
Mendoza, Argentina.	Mia P	1.41	43	Su,M,W,F,Sa	20		"	Lgs P	1.74	43	F	10
"	No P	1.55	43	Su,M,W,F,Sa	20		Port au Prince, Haiti.	Mia P	.37	17	Thrice Dly	10
"	Bro P	1.55	43	Su,T,Th,F,Sa	20		"	Mia K	.39	35	Su	10
"	Lgs P	2.11	43	M,W,Th,F,Sa	20		"	Mia P	.79	32	Dly	10
Merida, Mexico.	Mia P	.37	17	Dly	08		"	Mia K	.91	55	Su,W	10
"	No P	.37	17	Twice Dly	08		"	No P	1.20	43	Dly	10
"	Bro P	.55	32	Dly	08		"	Bro P	1.20	43	Dly	10
"	Lgs P	1.04	32	Dly	08		"	Lgs P	1.81	43	Dly	10
"	Di B	.56	32	Dly	08		Porto Alegre, Brazil.	Mia P	1.70	43	Su,M,W,F,Sa	20
"	Fu B	.56	32	Dly	08		"	No P	2.19	43	Su,T,Th,F,Sa	20
"	Lo B	.42	32	Dly	08		"	Bro P	2.19	43	M,W,Th,F,Sa	20
"	Sa B	.49	32	Dly	08		"	Lgs P	2.75	58	Su,T,W,Th,F	20
Mexicali, Mexico.	Lgs P	.20	15	Dly	08		"	"	"	"	"	"
Mexico City, Mexico.	Mia P	.64	32	Dly	08		Preston, Cuba.	Mia P	.24	15	Dly	08
"	No P	.64	32	Dly	08		"	Di B	.41	17	Dly	08
"	Di B	.40	17	Dly	08		"	Fu B	.41	17	Dly	08
"	Bro P	.26	17	Dly	08		"	Lo B	.27	17	Dly	08
"	Lgs A	.67	32	Dly	08		"	Sa B	.34	17	Dly	08
"	Lgs P	.67	32	Dly	08		Puerto Suarez, Bolivia.	Mia P	1.41	43	Sa	20
"	Lo B	.26	17	Dly	08		"	No P	1.56	43	F	20
"	Fv B	.40	17	Dly	08		"	Bro P	1.56	43	Sa	20
"	Eo A	.42	17	Dly	08		"	Lgs P	2.13	43	Th	20

INTERNATIONAL EXPRESS AND MAIL TABLES—Continued

Destination	U. S. Gateway & Airline	RATES (See Note)		Depart	Mail per 1/2 Oz.	Destination	U. S. Gateway & Airline	RATES (See Note)		Depart	Mail per 1/2 Oz.
		Per Lb.	Per \$100 Value					Per Lb.	Per \$100 Value		
Quito, Ecuador	Mia P	.97	.32	Dly	15	Tapachula, Mexico	Mia P	.74	.32	Dly	08
"	No P	1.09	.43	Dly	15	"	No P	.74	.32	Dly	08
"	Bro P	1.09	.43	Dly	15	"	Bro P	.53	.32	Dly	08
"	Lgs P	1.68	.43	Dly	15	"	Lgs P	1.02	.32	Dly	08
Recife (Pernambuco), Brazil	Mia P	1.26	.43	M, T, Th, Sa	20	Tegucigalpa, Honduras	Mia P	.69	.32	Dly	10
"	No P	1.65	.43	Su, M, W, F	20	"	No P	.68	.32	Twice Dly	10
"	Bro P	1.65	.43	Su, T, Th, Sa	20	"	Bro P	.68	.32	Dly	10
"	Lgs P	2.21	.43	M, W, F, Sa	20	"	Lgs P	1.18	.43	Dly	10
Rio de Janeiro	Mia P	1.50	.43	Su, M, W, F, Sa	20	Tres Lagoas, Brazil	Mia P	1.53	.43		20
"	No P	1.95	.43	Su, T, Th, F, Sa	20	"	No P	1.66	.43		20
"	Bro P	1.98	.43	M, W, Th, F, Sa	20	"	Bro P	1.66	.43		20
"	Lgs P	2.54	.58	Su, T, W, Th, F	20	"	Lgs P	2.23	.43		20
Robore, Bolivia	Mia P	1.38	.43	Sa	20	Tucuman, Argentina	Mia P	1.34	.43	T, Th, Sa	20
"	No P	1.51	.43	Sa	20	"	No P	1.49	.43	T, Th, Sa	20
"	Bro P	1.51	.43	F	20	"	Bro P	1.49	.43	M, W, F	20
"	Lgs P	2.08	.43	Th	20	"	Lgs P	2.05	.43	T, Th, Su	20
Salinas, Ecuador	Mia P	1.05	.32	W, F	15	Turbo, Colombia	Mia P	1.06	.32	Dly	25
"	No P	1.15	.43	W, F	15	"	No P	1.10	.43	T, F	25
"	Bro P	1.15	.43	T, Th	15	"	Bro P	1.10	.43	M, T, Th	25
"	Lgs P	1.75	.43	M, W	15	"	Lgs P	1.65	.43	W, Th	25
Salta, Argentina	Mia P	1.30	.43	T, Th, Sa	20	Tuxpan, Mexico	Bro P	.20	.15	Dly	08
"	No P	1.45	.43	T, Th, Sa	20	"	Lgs P	.83	.32	Dly	08
"	Bro P	1.45	.43	M, W, F	20	Tuxtla, Gutierrez, Mexico	Mia P	.81	.32	M, W, Sa	08
"	Lgs P	2.08	.43	Su, T, Th	20	"	No P	.81	.32	M, W, Sa	08
San Ignacio, Bolivia	Mia P	1.33	.43	Sa	20	"	Bro P	.45	.17	Su, T, Th	08
"	No P	1.48	.43	Sa	20	"	Lgs P	.93	.32	M, W, Sa	08
"	Bro P	1.48	.43	F	20	Uyuni, Bolivia	Mia P	1.26	.43	T, Th	20
"	Lgs P	2.04	.43	Th	20	"	No P	1.38	.43	T, Th	20
San Jose, Bolivia	Mia P	1.35	.43	Sa	20	"	Bro P	1.38	.43	M, W	20
"	No P	1.50	.43	Sa	20	"	Lgs P	1.95	.43	Su, Th	20
"	Bro P	1.50	.43	F	20	Veracruz, Mexico	Mia P	.57	.32	Dly	08
"	Lgs P	2.08	.43	Th	20	"	No P	.57	.32	Dly	08
San Jose, Costa Rica	Mia P	.83	.32	Dly	10	"	Bro P	.33	.17	Dly	08
"	No P	.76	.32	Twice Dly	10	"	Lgs P	.79	.32	Dly	08
"	Bro P	.76	.32	Dly	10	"	Di B	.42	.32	Dly	08
"	Lgs P	1.31	.43	Dly	10	"	Fv B	.42	.32	Dly	08
San Juan, Puerto Rico	Mia P	.53	.32	Thrice Dly	08	"	Lo B	.28	.17	Dly	08
San Salvador, El Salvador	Mia P	.64	.32	Dly	10	"	Sa B	.35	.17	Dly	08
"	No P	.61	.32	Twice Dly	10	Victoria, Brazil	Mia P	1.41	.43	Th, Sa	20
"	Bro P	.61	.32	Dly	10	"	No P	1.90	.43	W, F	20
"	Lgs P	1.14	.43	Dly	10	"	Bro P	1.90	.43	T, Th	20
Santa Cruz, Bolivia	Mia P	1.28	.43	M, W, Sa	20	"	Lgs P	2.46	.58	M, W	20
"	No P	1.43	.43	M, W, Sa	20	Villahermosa, Mexico	Mia P	.49	.32	Dly	08
"	Bro P	1.43	.43	Su, T, F	20	"	No P	.49	.32	Dly	08
"	Lgs P	1.99	.43	M, Th, Sa	20	"	Bro P	.43	.17	Dly	08
Santiago, Chile	Mia P	1.38	.43	Su, M, W, F, Sa	20	"	Lgs P	.90	.32	Dly	08
"	No P	1.51	.43	Su, M, W, F, Sa	20	NOTE: Charges Collect and C. O. D. Services have been resumed to Pan American Airways Airports in the following countries: Canal Zone—Costa Rica—Cuba—Dominican Republic—El Salvador—Guatemala—Haiti—Honduras—Panama Republic—Puerto Rico—Surinam—Trinidad—Venezuela—Virgin Islands; also charges collect (no C. O. D.) service to Nicaragua.					
"	Bro P	1.51	.43	Su, T, Th, F, Sa	20						
"	Lgs P	2.08	.43	M, W, Th, F, Sa	20	ATLANTIC LINES					
Santiago, Cuba	Mia P	.26	.17	Dly	08						
Sao Luiz, Brazil	Mia P	1.19	.43	M, T, Th, Sa	20	Bolama, Portuguese Guinea, Africa	Nyk P	2.66	.43	Fortnightly	50
"	No P	1.43	.43	Su, M, W, F	20	Botwood Newfoundland	Nyk P	.81	.32	Su, W, F	15
"	Bro P	1.43	.43	Su, T, Th, Sa	20	Botwood, Newfoundland	Nyk E	.81	.32	Thrice wk	15
"	Lgs P	1.99	.43	W, F, Sa, M	20	"			May-Oct.		
Sao Paulo, Brazil	Mia P	1.55	.43	Su, M, W, F, Sa	20	Dakar, Senegal, Africa		2.36	.45	Fortnightly	45
"	No P	2.04	.43	Su, T, Th, F, Sa	20	England via Foyne's	Nyk E	(Rates on Application)			30
"	Bro P	2.04	.43	M, W, Th, F, Sa	20	"	Nyk P	(Rates on Application)			30
"	Lgs P	2.60	.58	Su, T, W, Th, F	20	Foyne's, Eire via Botwood	Nyk P	1.78	.43	Su, W, F	30
Sao Salvador, Brazil (Bahia)	Mia P	1.28	.43	M, T, W, Th, Sa	20	" via Botwood or Direct	Nyk E	1.78	.43	Thrice wk	30
"	No P	1.76	.43	Su, M, T, W, F	20	Hamilton, Bermuda	Nyk P	.55	.17	M, T	10
"	Bro P	1.76	.43	Su, M, T, Th, Sa	20	Horta, Azores	Nyk P	1.70	.32	T	30
"	Lgs P	2.33	.58	Su, M, W, F, Sa	20	Lisbon, Portugal	Nyk P	2.00	.43	T	30
St. Martin, N.W.I.	Mia P	.57	.32	Sa	08	Monrovia (Fisherman's Lake), Liberia	Nyk P	2.67	.43	Alt. Th	50
St. Thomas, V. I.	No P	.90	.32	Su	08	Scotland via Foyne's	Nyk E	(Rates on Application)			30
"	Bro P	1.10	.43	Sa	08	"	Nyk P	(Rates on Application)			30
"	Lgs P	1.68	.43	F	08	Shediac, N.B.	Nyk E	.51	.17	Su, W, F	08
Talara, Peru	Mia P	1.08	.43	Dly	15	Sweden, via Foyne's	Nyk E	(Rates on Application)			30
"	No P	1.17	.43	Dly	15	Wales via Foyne's	Nyk E	(Rates on Application)			30
"	Bro P	1.17	.43	Dly	15	"	Nyk P	(Rates on Application)			30
"	Lgs P	1.79	.43	Dly	15						
Tampico, Mexico	Bro P	.20	.15	Dly	08						
"	Lgs P	.81	.32	Dly	08						

INTERNATIONAL EXPRESS AND MAIL TABLES—Continued

Destination	U. S. Gateway & Airline	RATES (See Note)		Depart	Mail per Oz.	Destination	U. S. Gateway & Airline	RATES (See Note)		Depart	Mail per Oz.
		Per Lb.	Per \$100 Value					Per Lb.	Per \$100 Value		
ALASKA LINES											
Aniak Alaska	Ste P	1.08	.32	Sa	.08	Lethbridge, Alb.	Nyk T	.88	†	Dly	.08
Bethel "	Ste P	1.11	.32	Sa	.08	"	Cub W	.04	†	Dly	.08
Burwash Landing "	Ste P	.72	.32	Dly	.08	London, Ont.	Nyk T	.22	†	Dly	.08
Fairbanks "	Ste P	.90	.32	Dly	.08	Moncton, N. B.	BbNE	.06	†	Dly	.08
Flat "	Ste P	1.05	.32	Sa	.08	Montreal, Que.	Nyk C	.12	†	Dly	.08
Galena "	Ste P	1.00	.32	M, W, F	.08	"	Nyk T	.12	†	Dly	.08
Juneau "	Ste P	.56	.32	Dly	.08	"	Jg NE	.12	†	Dly	.08
Lake Minchumina "	Ste P	.95	.32	Sa	.08	North Bay, Ont.	Nyk T	.27	†	Dly	.08
McGrath "	Ste P	1.00	.32	Sa	.08	Ottawa, Ont.	Nyk T	.18	†	Dly	.08
Moses Point "	Ste P	1.07	.32	M, W, F	.08	Regina, Sask.	Nyk T	.80	†	Dly	.08
Nome "	Ste P	1.11	.32	M, W, F	.08	St. John, N. B.	Nyk T	.31	†	Dly	.08
Tanacross "	Ste P	.81	.32	Dly	.08	St. John's, N. F.	Nyk T	.58	†	Dly	.08
Tanana "	Ste P	.95	.32	Su, Th	.08	Sydney, N. S.	Nyk T	.36	†	Dly	.08
Whitehorse, Canada	Ste P	.60	.32	Dly	.08	Toronto, Ont.	Nyk A	.16	†	Dly	.08
CANADIAN LINES											
Calgary, Alb.	Nyk T	1.02	†	Dly	.08	"	Nyk T	.16	†	Dly	.08
Edmonton, Alb.	Nyk T	1.06	†	Dly	.08	Vancouver, B. C.	Ste U	.04	†	Dly	.08
Halifax, N. S.	Nyk T	.31	†	Dly	.08	"	Nyk T	.96	†	Dly	.08
						Windor, Ont.	Nyk A	.20	†	Dly	.08
						"	Cg A	.12	†	Dly	.08
						"	Nyk T	.20	†	Dly	.08
						Winnipeg, Man.	GfNW	.04	†	Dly	.08
						"	Nyk T	.60	†	Dly	.08

Scale of Rates Generally in Use in American Marine Insurance Markets for Mail and Air Shipments

Replacing Schedule Dated August 20, 1945

A—Registered Mail, excluding Registered Air Mail and Air Express Rates by Registered Mail:

Non-negotiable securities (warranted full value declared for insurance)—37½% of Cargo Rates. Securities (except as provided above), documents and similar interest —75% of Cargo Rates.

Currency including jewelry, precious stones, precious metals, etc., also miscellaneous cargo—100% of Cargo Rates.

B—Registered Air Mail and/or Air Express and/or other shipments by air: Western Hemisphere (excluding shipments between points in Continental United States and/or Canada except as noted below)

All classes of property

1. Sendings between points in Western Hemisphere 2½c%

EXCEPT

United States, Canada or Alaska to from Aleutian Islands 5c%

United States or Canada to from Hawaiian Islands 5c%

U. S. or Canada to or from: Europe and Iceland (a)* (b)*

1. Portugal 2½c% 5c%

2. British Isles or Eire 2½c% 5c%

3. Iceland and Greenland 2½c% 5c%

4. Spain, France, Belgium, Holland, Switzerland, Italy, Sweden 5c% 10c%

Africa (except Egypt) 5c% 10c%

Near East

1. Egypt 7½c% 15c%

2. Arabia, Palestine, Syria, Cyprus, Turkey, Greece, Iran, Iraq 7½c% 15c%

Asia

1. Afghanistan	10c%	20c%
2. India, Ceylon	10c%	20c%
3. Chungking	1/4%	1/2%

Australasia

7 1/2c%	15c%
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* (a) All Classes of Securities.

* (b) All other Property.

C—Ordinary Parcel Post, Government Insured Parcel Post, Registered Post, Ordinary Mail (Excluding Air Mail)

(A) United States or Canada to from Australasia, Hawaiian and other Pacific Islands—Transpacific Cargo Rate.

(B) U. S. to from United Kingdom, Eire, Portugal, Spain, Africa, Near East, Far East, Newfoundland, Iceland, Greenland, Bermuda—Cargo Schedule Rate to from New York but with respect to shipments to or from Spain under policies endorsed with the airborne clause, the Lisbon rate will be charged plus an additional charge of 50% of the connecting Air Service rate quoted in Section (B) because of the possibility that shipments of valuables may go forward to or from interior points by Air.

(C) U. S. West of Rockies to from Costa Rica, Panama, Panama Canal Zone, Colombia, Ecuador, Peru, Bolivia and Chile—Cargo Schedule Rate for Pacific voyages to from San Francisco.

(D) U. S. West of Rockies to from Venezuela, Guianas, Brazil, Paraguay, Uruguay, Argentina—Cargo Schedule Rate via Panama to from San Francisco.

(E) U. S. East of Rockies to from Costa Rica, Panama, Panama Canal Zone, So. America, West Indies (except Bermuda)—Schedule Rate to from U. S. Gulf.

(F) *U. S. West of Rockies to from Mexico—25% of Schedule Cargo Rate for Pacific voyages to from San Francisco.

*U. S. East of Rockies to from Mexico—25% of Schedule Cargo Rate to from United States Gulf.

(G) U. S. to from British Honduras, Guatemala, Republic of Honduras, El Salvador and Nicaragua—Cargo Schedule Rate for voyages between U. S. Gulf and East Coast Central America.

* Note: Reduced percentage provided assured agrees to pay this percentage on all shipments; otherwise individual shipments on Facultative Basis.

Cargo Schedule Rate for Pacific voyages to from San Francisco

Cargo Schedule Rate to from United States Gulf

Rates in this Section are not subject to revision, either upward or downward, should be actual route of the shipments become known.

D—Express (Excluding Air Express)—Charge Cargo War Risk Schedule Rates.

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